TROPICAL DISEASES BUREAU.

TROPICAL DISEASES BULLETIN.

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BERIBERI.

KEPLER (E. J.). **Beriberi from a Diet of Raw Starch.**—*Jl. Amer. Med. Assoc.* 1925. Aug. 8. Vol. 85. No. 6. pp. 409–412. With 4 text figs. [7 refs.]

The patient was a coloured woman aged 28, admitted to the Neurological Clinic of the Philadelphia General Hospital. The most irregular feature of the case, which was finally diagnosed as beriberi, was that the oedema was associated with nephritis, but this might have been due to intravenous injections of a new preparation of calcium and free iodine. The probable cause was excessive consumption of raw starch, up to 1–2 lbs. a day, the use of which had become quite an obsession. No symptoms of note occurred for about ten months, but as the patient had at least one ordinary meal each day this would delay the onset of the beriberi. Recovery followed the resumption of a normal diet.

P. W. Bassett-Smith.

BERNARD (P. Noël). **Réaction de déviation du complément dans le béribéri humain.**—*C.R. Soc. Biol.* 1925. Apr. 10. Vol. 92. No. 13. pp. 1038–1040. [5 refs.]

In continuation of his previous work demonstrating that the *B. asthenogenes* had a definite relationship to human beriberi, Bernard has carried out experiments to determine whether there are present in human beriberi any antibodies to the organism and its toxin. He admits that the difficulties of proof are great, since in severe cases there may not be time for their production and in chronic cases these bodies may have passed away. The method used was that of complement fixation according to the technique of CALMETTE and MASSOL. The antigen is made from a filtered culture of *B. asthenogenes* grown anaerobically, when the toxin produced is at its maximum; the filtrate is centrifuged, washed in saline, and diluted. This emulsion is then heated for 5 minutes to boiling point and preserved in the ice chest; the immune serum is heated to 55° C. Guineapig serum is used for complement, and the haemolytic system consists of rabbit serum and sheep cells. 131 sera of natives were tested, of which 76

were from cases of beriberi in hospital; 65·7 per cent. of these gave a positive reaction, and 34 per cent. were negative; 5 of the latter were cases of malarial neuritis and 1 of syphilis. 56 cases other than beriberi, when tested, gave 53 negative reactions. It is therefore contended that this reaction has a considerable value and helps to establish the relationship of *B. asthenogenes* to beriberi.

P. W. B-S.

KOZAWA (S.), KUSUNOKI (M.) & HOSODA (N.). **On the Contents of Nonprotein Nitrogen in Blood of Human Beriberi and Avitaminosis of Rabbits.**—*Japan Med. World.* 1925. Apr. 15. Vol. 5. No. 4. pp. 83–86. [11 refs.]

Work of previous authors, mostly Japanese, is referred to and details of the present experiments on both human beriberi cases and the experimental disease in rabbits are given. They show that there is an increase of the nonprotein nitrogen in the blood serum of rabbits with avitaminosis, and that in the patients with beriberi it was 2–3 times more than the normal. Further experiments are being carried out.

P. W. B-S.

MONTEL (M. L. R.), TRAN VAN AN & DANG VAN CÚÓNG. **Tension artérielle et viscosité sanguine dans le béribéri chez les Annamites de Cochin-chine.**—*Bull. Soc. Path. Exot.* 1925. June 10. Vol. 18. No. 6. pp. 475–477.

After an investigation of the blood conditions in the local malaria of Saigon the authors turned their attention to beriberi, 48 chronic cases of which were under observation. The arterial tension was found to be higher than in the normal Annamese or in those suffering from malaria. This is therefore stated to be a useful factor in the differential diagnosis of forms of neuritis. In beriberi the viscosity of the blood was of no diagnostic value, but it was generally higher than normal. It is noted that cardio-vascular irregularities are easily induced among these natives.

P. W. B-S.

CHAHOVITCH (X.). **Béribéri expérimental et insuline.**—*C.R. Soc. Biol.* 1925. Aug. 14. Vol. 93. No. 27. pp. 652–655. [4 refs.]

The author investigated the action of insulin upon healthy birds and those suffering from artificially-induced beriberi (B. avitaminosis). He found that in healthy pigeons insulin neither produces nervous phenomena nor lowers the temperature, but in those with avitaminosis it aggravates the symptoms, produces other nervous signs, and notably reduces the temperature; which phenomena disappear as the effect of the insulin wears off. MATTON and others have noted a fall of temperature in rabbits after injections of insulin, and NIYONS records similar effects in healthy pigeons; his results differ therefore from those of the author.

P. W. B-S.

BACHARACH (Alfred Louis). **A Note on the Basal Vitamin B-Free Diet of Drummond and Watson.**—*Biochem. Jl.* 1925. Vol. 19. No. 4. pp. 638–640. With 1 text fig. [5 refs.]

The author states that the lemon juice of the modified Drummond basal diet should be omitted for experimental purposes, as it contains besides vitamin C a certain amount of vitamin B. He also states that its omission is not detrimental to the rats used.

[The interesting series of curves appears to demonstrate this, and shows the remarkable value of marmite, the source of vitamin B, in the growth of the animals.]

P. W. B-S.

EGGLETON (Philip) & GROSS (Louis). **A Note on the Blood-Sugar Levels of Rats fed with Complete Diets and Diets Deficient in Vitamin B.**—*Biochem. Jl.* 1925. Vol. 19. No. 4. pp. 633–637. With 3 text figs. [10 refs.]

The normal and basal blood-sugar levels of rats fed on complete and vitamin B-deficient diets were ascertained. The rate of absorption of glucose from the alimentary tract was unaffected by vitamin B deficiency; glycogen gradually disappeared from the liver when vitamin B was eliminated from the diet. A causal relationship between vitamin B content and the food intake is suggested; the vitamin would appear to have a direct stimulating influence on the rat's appetite.

P. W. B-S.

i. ITO (Hisae). [**On the Vitamin B Contents of the Viscera of the Normal and Polished Rice Diseased Pigeons.**]—*Osaka Igakkai Zasshi* (*Jl. of Osaka Med. Soc.*). 1924. Oct. Vol. 23. No. 10. [Summarized in *Japan Med. World.* 1925. Mar. 15. Vol. 5. No. 3. p. 73.]

ii. ——. [**Exclusive Experimental Feeding of the Pigeon and Rabbit with Corn.**]—*Osaka Igakkai Zasshi* (*Jl. of Osaka Med. Soc.*). 1924. Oct. Vol. 23. No. 10. [Summarized in *J.M.W.* p. 73.]

iii. TAKAYAMA (Shiro). [**On the Relation between Hyperglycemia and Blood Saccharolytic Ferment in Avian Polished Rice Disease.**]—*Chugai Iji Shimpo.* (*Central Med. Jl.*). 1925. Mar. Vol. 44. No. 6. [Summarized in *J.M.W.* May 15. No. 5. p. 128.]

iv. ——. [**On B-Avitaminosis of Man and Animals and on the Blood Catalase of the Beriberic Cases. I & II.**]—*Nissin Igaku* (*Progress in Med.*). 1925. Nov. & Dec. Vol. 14. Nos. 3 & 4. [Summarized in *J.M.W.* June 15. No. 6. p. 158.]

i. The author estimated the Vitamin B content of the organs of pigeons by the curative efficiency of the dead viscera when given to birds suffering from experimental polished rice disease. The relative values of liver, stomach, intestine and muscles were 1·5, 1·0 and 3·0. The heart having the highest content, and there being none in the lungs.

ii. It was found that 3 gm. (per diem) of corn was able to cure completely polished rice disease of pigeons. It was not good food for rabbits, as when used exclusively 55 per cent. of these developed a beriberi-like disease, while the other 45 per cent. died of inanition.

iii. The author concluded from his experiments that as the hyperglycemia in avian polished rice disease became more and more manifest the saccharolytic ferment would become less, differing from that which occurs in simple starvation.

iv. The author used pigeons, fowls, rats, dogs and man in these experiments and concluded that beriberi and B. avitaminosis are identical with each other so far as the blood catalase is concerned.

P. W. B-S.

SCURVY.

GILKS (J. L.). **An Outbreak of "Rand Scurvy."**—*Kenya Med. Jl.* 1925. July. Vol. 2. No. 4. pp. 104–110.

The author reports an interesting and rather peculiar outbreak of a form of scurvy among the Masai prisoners in the Nairobi jail in 1924. Nine cases were affected out of 13. Practically all were anaemic on arrival and being under heavy sentences were kept in special cells separate from the ordinary prisoners. They received the ordinary diet, which was liberal, but probably deficient in vitamin C. The symptoms conformed with those of Rand scurvy—oedema, painful joints, spongy gums, increased knee jerks, etc. The lower limbs were affected in all cases, causing difficulty in walking, which did not affect others in the jail. The debilitated condition of these prisoners, with isolation, want of exercise, little sunlight and a dietary very different from that to which they were accustomed, were the chief contributory causes of the outbreak. There was one death from progressive anaemia and heart failure. A similar outbreak was reported in 1906.

P. W. Bassett-Smith.

FRANK (A.). **Ueber den Gehalt der Milch an skorbut-verhütenden Stoffen.** [On the Anti-Scurvy Bodies in Cow's Milk.]—*Klin. Woch.* 1925. June 18. Vol. 4. No. 25. pp. 1204–1208. With 5 charts in text. [41 refs.]

The amount of vitamin C in milk depends, as has been previously shown, on the source and the method of preservation. The author emphasizes the fact that a short heating at a high temperature is less deleterious than a long one at a low temperature, and that, even if preserved milk retains any vitamin, this is useless for sucklings, as the milk is given in such great dilution. Milk under any conditions is poor in the antiscorbutic factor. MEYER & NASSAU state that goat's milk has little antiscorbutic value, and that 3 per cent. soda preserves the vitamin; this is against the usual teaching that alkali reduces its activity. HESS has shown that 340 gm. of human milk reduced the symptoms in a child, whereas 450 gm. of cow's milk was insufficient. In experiments on guineapigs of about 250 gm. weight the author gave up to 60 cc. of human milk; these animals died after 24 and 28 days (as if they had not had any vitamin C at all). Goat's milk gave similar results.

The various milks used at the Clinic gave the following results:—

Institute milk for infants, very good; one guineapig died on the 45th day, the other was alive after three months. Market milk, similar. Clinic milk, the same. The milk in Leipsic was used fresh and without preservatives. These results differ from those of MEYER & NASSAU in Berlin. In Leipsic, though vitamin C is low in fresh milk, it is enough to protect infants from scurvy. He does not agree that constant biological tests are necessary for the control of the milk supply, but advises better laws for cow-keeping. H_2O_2 should not be used as a preservative, slow Pasteurization should be avoided, and green winter fodder should be given to the milch cows.

P. W. B-S.

CAVANAUGH (G. W.), DUTCHER (R. A.) & HALL (J. S.). [**Antiscorbutic Potency of Whole-Milk Powder.**]—*Indust. & Engineering Chem.* 1924. Vol. 16. pp. 1070–1073. [Summarized in *Med. Sci. Abstr. & Rev.* 1925. Feb. Vol. 11. No. 5. p. 335.]

It has generally been stated that milk dried by the Merrell-Soule spray process loses practically all its antiscorbutic potency; that this is not so is shown by the authors' experiments. No observations of the antiscorbutic value of a given milk before and after heating have been recorded previously.

In the present experiments, mixed milk from a herd of cows was used; samples of the mixed milk in the fresh state were fed to one batch of guineapigs, and equivalent samples dried by the above-mentioned process were fed to another batch, the basal diet for both batches containing no other antiscorbutic. It was found that the weight curves of both batches were almost exactly similar and where the amount of dried milk was insufficient to prevent scurvy, the disease developed at the same time and to the same extent in those fed upon a corresponding amount of the fresh milk.

P. W. B-S.

LIOTTA (Domenico). **Studio sullo scorbuto e sul valore antiscorbutico del succo di arance e di limoni.** [Scurvy and the Preventive Use of Orange and Lemon Juice.]—*Arch. d. Farmacol. Sperim. e Sci. affini.* 1925. May 1. Year 24. Vol. 39. No. 9. pp. 202–224. [62 refs.]

The antiscorbutic power of oranges and lemons being reduced by keeping, the author tried the effect of passing chlorine through the juice till the latter contained 0·5 per cent. of the gas. He found that the product kept well, did not ferment, and was not attacked by moulds. Its antiscorbutic value was not very high; to guineapigs of 400–500 gm. weight 5–6 cc. was given daily, and death occurred from scurvy in about double the length of time during which control animals survived on a scorbutic diet without the juice.

H. Harold Scott.

VAGLIANO (M. S.). **Persistance du pouvoir antiscorbutique du sirop d'orange.**—*C.R. Soc. Biol.* 1925. Aug. 14. Vol. 93. No. 27. pp. 602–604. With 1 text fig. [4 refs.]

The experiments were made to determine whether the conservation of orange juice in syrup would modify its antiscorbutic properties under various conditions of keeping. Orange juice 4 parts, sugar 2 parts, and water 1 part were mixed and boiled in the open at 115° C. for 1–2 hours until the whole became a syrupy mass, and after six months this was tested on guineapigs. The results showed that the syrup had preserved its antiscorbutic value almost intact. The sugar preserves the vitamin C, the author states, just as it does in sweetened concentrated milk.

P. W. B-S.

ZILVA (Sylvester Solomon). **The Antiscorbutic Fraction of Lemon Juice. III.**—*Biochem. Jl.* 1925. Vol. 19. No. 4. pp. 589–594. [8 refs.]

This report details an endeavour to improve the method of extracting the antiscorbutic factor from lemon juice. It was found that neutral

lead acetate does not precipitate the active principle in either lemon juice or swede juice, whereas basic lead acetate will do so; also that there is no connexion between the amide nitrogen and the antiscorbutic activity of lemon juice, but experiments on the amino fraction are very uncertain owing to the difficulties of isolating these bodies. The results described by BEZSSONOFF are adversely criticized.

P. W. B-S.

HAUGE (Sigfred M.) & CARRICK (Carey W.). **The Antiscorbutic Properties of Eggs.**—*Jl. Biol. Chem.* 1925. May. Vol. 64. No. 1. pp. 111–112. [14 refs.]

The authors found that the eggs of hens fed upon an antiscorbutic diet gave no protection against the development of scurvy. In daily quantities up to 20 cc. of white, or 15 cc. of yolk, it was ineffective for guineapigs. These findings are contrary to those of MCCOLLUM, who states "that egg yolk is at least comparatively rich in water soluble C."

P. W. B-S.

PALLADIN (Alexander) with KUDRJAWZEWA (A.) & NORMARK (P.). **Beitrage zur Biochemie der Avitaminosen. Nr. 1. Kohlehydratstoffwechsel bei experimentellem Skorbut.** [PALLADIN.] [Carbohydrate Metabolism in Experimental Scurvy.]—*Biochem. Ztschr.* 1924. Oct. 30. Vol. 152. No. 3/4. pp. 228–245. [11 refs.]

Nr. 2. Stickstoffwechsel (insbesondere Kreatinstoffwechsel) bei experimentellem Skorbut. [Nitrogen (particularly Kreatin) Metabolism in Experimental Scurvy.] [PALLADIN & KUDRJAWZEWA.] —*Ibid.* Nov. 8. No. 5/6. pp. 373–387. With 2 figs. [9 refs.]

Nr. 3. Blutfermente bei experimentellem Skorbut. [NORMARK.]—*Ibid.* pp. 420–425. [8 refs.]

1. For these experiments guineapigs of 350 gm. weight were employed, and a basal diet of boiled oats and water. The points chiefly studied were the blood sugar, amylase and glycogen content.

On changing to a non-vitamin diet hyperglycaemia commenced, reached its maximum about the end of the second week of the scurvy, and then decreased steadily until the animal died in a condition of hypoglycaemia. The occurrence of the characteristic scurvy symptoms coincides with hypoglycaemia. The amylase content of the blood ran parallel to the blood sugar. The glycogen decreases in the liver and at the end of the scurvy can no longer be distinguished.

2. In experimental scurvy caused by a deficiency of vitamin C the nitrogen content in guineapigs alters. There is an increase in kreatin production in the muscles. The kreatin appears in the urine and increases continuously during the disease. This increase of the kreatin in the muscles runs a parallel course to that of the disease.

3. This study of the ferments in experimentally-produced scurvy deals chiefly with amylase, the ferment on which scurvy has the greatest influence, since the carbohydrate changes are primarily influenced by the lack of vitamin C. The results obtained were in general agreement with previous findings. In guineapigs the amount of blood available for examination is small, so that deductions are not very satisfactory; using the method of BACH the amounts of katalase, protease, peroxydase and lipase were determined.

P. W. B-S.

LEPPER (Elizabeth Herdman) & ZILVA (Sylvester Solomon). **The Bicarbonate of the Plasma and the Hydrogen Ion Concentration of the Blood of Guinea-Pigs suffering from Scurvy.**—*Biochem. Jl.* 1925. Vol. 19. No. 4. pp. 581–588. [14 refs.]

The experiments were carried out to determine whether in scurvy in guineapigs there is diminution of the bicarbonate in the blood or any alteration in the reaction. The blood was obtained by cardiac puncture and collected under paraffin in tubes with a little potassium oxalate. The experiments are described in detail and the conclusions were that in health the amount of the bicarbonate in the plasma showed great variations, but the hydrogen ion concentration was fairly stable. In scurvy guineapigs the alkalinity was on the average at a lower level than in the normal, owing to the deficiency of sodium and potassium salts of organic acids in the scurvy-producing diet. Addition of citrate of soda to the ration, though it restores the normal alkalinity, does not influence the onset of scurvy.

P. W. B-S.

WOLBACH (S. Burt) & HOWE (Percy R.). **The Effect of the Scorbutic State upon the Production and Maintenance of Intercellular Substances.**—*Proc. Soc. Experim. Biol. & Med.* 1925. Apr. Vol. 22. pp. 400–402.

Guineapigs under strict vitamin C deficiency diet were studied to note the effects of the antiscorbutic employed. The earliest evidence of scurvy was found in the incisor teeth, a separation of the dentine from the layer of odontoblasts occurring on the 6th–7th days, and the space being filled with fluid. Bone formation rapidly ceases, but osteoblasts continue to proliferate especially under the periosteum. Repair of both soft and bony tissues is impaired in scurvy ; the proliferation of the fibroblasts is little affected, but there is a marked diminution of the amount of inter-cellular substance. The authors conclude that the scorbutic state may be characterized as one affecting the supporting tissues in which the cells are unable to produce and maintain intercellular substances, and the hypothesis is brought forward " that in the formation of intercellular substances there is a change of the material from a liquid to a solid or jell state, and that the missing factor in the scorbutic condition is one affecting the jelling or setting of a liquid product."

P. W. B-S.

MOURIQUAND, LEULIER, MICHEL, IDRAC. **Avitaminose C et cholestérinémie.**—*C.R. Acad. Sci.* 1925. June 2. Vol. 180. No. 22. pp. 1699–1701. [2 refs.]

The experiments were carried out to determine the changes caused in the blood of guineapigs by deficiency of vitamin C in the food. It was found that such deficiency, whether acute or chronic, did not appear to alter the cholesterin content.

P. W. B-S.

UNDULANT AND ABORTUS FEVERS.

SEE (Pierre). **La fièvre de Malte. Sa fréquence relative. Traitement et prophylaxie.**—*Médecine.* Paris. 1924. Dec. Vol. 6. No. 3. pp. 213–218.

This is a preceptorial article and contains nothing new. The author is not quite unimpeachable in stating that it is logical to conclude "with the English tropical school that the efficacy of antimelitensis vaccine is insufficiently established," and that as the vaccine prepared by NICOLLE and CONSEIL for prophylatic use, both for animals and men, has given such encouraging results we should persist with it.

P. W. Bassett-Smith.

HOLT (Rufus L.) & REYNOLDS (Francois H. K.). **Malta Fever and its Prevalence along the Mexican Border.**—*Milit. Surgeon.* 1925. Apr. Vol. 56. No. 4. pp. 414–424. [8 refs.]

The condition known as Texas slow fever, Malta fever, or goat fever has long existed in Mexico. Since 1911 several epidemics which have spread along the Mexican border have been investigated. In dry years in herds of goats affected with what the ranchers call goat fever the percentage loss from abortion is very high, up to 50 per cent. It is, therefore, a serious economic consideration, as hundreds of ranchers in Texas, New Mexico and Arizona depend entirely, or to a great extent, on goats as a source of income. It is stated that herdmen always boil the milk before use, but as the infecting organism can live long in soil it is easily spread by inhalation and ingestion. The manure is also heavily infected and a source of contamination. On examination a large percentage of the animals were carriers, the specific organism being isolated from the blood and milk. Cases in man are often overlooked. Of the 22 counties on the border 15 are known to be affected; the disease is more common in South-west Texas than in South Central, and rises in frequency in New Mexico and Arizona. It is important that a national effort should be made to control the disease.

P. W. B-S.

ZDRODOWSKI (P.). [**On Spontaneous Malta Fever in Goats.**]—*Trav. Inst. Microbiol. et Hyg. d'Azerbaidjan* (Baku). 1924. No. 1. pp. 103–113. [In Russian.]

In 1922 the author established the presence of undulant fever in four persons in a village of Azerbaidjan (Caucasus). The infection was traced to a group of six goats, two of which were found to be suffering from undulant fever. One was kept under observation at the Institute for two years, and the course of infection and results of post-mortem examination are here recorded. The diagnosis was based on the agglutination reaction, no micrococci having been recovered. During the first year of observation the goat manifested all symptoms of the disease (bronchitis, affection of the joints, presence of agglutination); during the second year it appeared to be quite healthy, only the joint in one limb being ankylosed. The agglutinating titre decreased during the first year, and was absent during the second; the clinical symptoms showed a gradual amelioration, the animal having recovered spontaneously in the course of two years.

The author draws attention to certain peculiarities in the morbid anatomy of this case, viz., the presence of necrotic foci in the lung, liver, and kidneys, vacuolar degeneration of the liver-cells, chronic glomerulo-nephritis, and suggests that the Azerbaidjan strain of micrococcus may be a local variety (varietas caucasica). [The statement that the animal had recovered is open to doubt.—P. W. B-S.]

C. A. Hoare.

VANNI (Vittorio). **I dati clinici e sperimentali della forma pseudo-tubercolare della febbre di Malta.**—*Riforma Med.* 1925. June 15. Vol. 41. No. 24. pp. 555–557. With 2 text figs. [3 refs.]

Cases of undulant fever resembling in many respects tuberculosis may be distinguished clinically by the character of the pulse, the enlargement of the liver and spleen, the favourable termination and the beneficial effects of specific treatment. Experimentally, the author observed in guineapigs a pulmonary localization of the *M. melitensis* after inoculation and the production of a peribronchitis with "interstitial inflammation" and a broncho-pneumonia, or a congestive form with a condition resembling grey hepatization in circumscribed or more extensive areas. [A diagnosis on the clinical characters alone would be found very unreliable.—P. W. B-S.]

H. Harold Scott.

BALFOUR (Andrew). **The Treatment of Undulant Fever : A Suggestion.** [Correspondence.]—*Brit. Med. Jl.* 1925. July 11. p. 86.

The writer states that as reported, mostly from American sources, Mercurochrome 220 and medicinal Gentian Violet are very valuable remedies in septicaemia. He has already advocated the use of the former in plague, for which it appears to have some value, and now suggests that it would be useful in undulant fever, given intravenously ; or, if it failed, the second drug might be used. It might be of value also as a prophylactic and curative agent for goats.

[It is generally believed that any germicide given intravenously is so rapidly diluted that it ceases to be effective. Eusol has proved useless, but good results (unconfirmed) in goats have been reported by SCORDO with perchloride of mercury.]

P. W. B-S.

STRACHAN (P. D.). **Treatment of Malta Fever.** [Correspondence.]—*S. African Med. Rec.* 1925. July 25. Vol. 23. No. 14. p. 324.

In reference to a letter supporting vaccine treatment for undulant fever the author states that he knows of no rational explanation how this can benefit a septicaemic disease, nor does he see any advantage in the practice. His unfavourable conclusions in 1911 were based upon 15 cases, and in two of these there was local abscess formation, [a result that never occurred in hundreds of cases treated at Haslar]. The remark that novarsenobillon acts by raising the patient's resistance rather than bactericidally is probably true. The statement that since the fever was stamped out in the Navy and Army there has been little literature on the subject is not flattering to our French confrères.

[It has been the reviewer's constant opinion that the vaccine should not be given in the acute septicaemic period but in the more chronic stage with localized infection.]

P. W. B-S.

B[URNET] (E.). **Note bibliographique. A propos de la présence du *M. melitensis* dans le lait d'une femme infectée.**—*Arch. Inst. Pasteur de Tunis.* 1925. Apr. Vol. 14. No. 2. p. 246.

Referring to a case already reported, the author notes that *M. melitensis* has been observed in human milk by EYRE, MCNAUGHT, KENNEDY and ZAMMIT. Resistance of the new-born to infection by the milk of the infected mother has been observed in goats by ZAMMIT. Of four kids of an infected mother, three were immune; the fourth did not present any clinical signs, but after death the organism was found in the kidney (possibly accidentally in the course of elimination). It is certain that animals born and suckled of a healthy mother have a certain amount of immunity and, as suggested by ZAMMIT, they would slowly cause the flock to become immune.

P. W. B-S.

BURNET (Et.). **Aperçu des acquisitions récentes sur la fièvre méditerranéenne.**—*Bull. Inst. Pasteur.* 1925. May 15 & 31. Vol. 23. Nos. 9 & 10. pp. 369–382; 417–432. [79 refs.]

The author gives a very interesting review of recent history and laboratory work relating to the extension of the disease inland and over the world, animal experimental research, the intradermal reaction and relationship of the *M. melitensis* of Bruce to *B. abortus*, Bang. He thinks that we have at present no right to say that undulant fever is caused by *B. abortus*, but it is now well established that there is an undulant fever of bovine origin.

The species *melitensis* and *abortus* of genus *Brucella* comprise varieties and adaptations more numerous and less fixed than was believed, and the virulence of the human and bovine strains differs greatly. It is a remarkable fact that laboratory infections with the former have been very common, whereas with the latter none is known. Exact classification of the group is as yet impossible. Serologically it is possible in certain cases to state positively that an organism is *melitensis*, but it is not possible by the same methods to prove definitely that a strain is *abortus*; that is, there are certain definite *melitensis* strains but the others overlap; it is premature to say that they are identical. The similarity between *B. pestis* and *B. pseudo-tuberculosis* should be remembered, and the author holds that pathogenicity as a character is of great importance. He considers that *abortus* is closely related to *paramelitensis*, and he has found the latter to be easily recognized. Seven out of eight *abortus* strains tested, three-quarters of which were of caprine origin, he placed in the *paramelitensis* group. He believes that Brucella may be classified in two principal types, *melitensis* and *paramelitensis*, with *abortus* intermediate. For diagnosis he states that the agglutination test fails in 20 to 25 per cent. of undulant fever cases; the intradermic is very good but does not distinguish between the three groups. Some remarks on the use of *abortus* for prophylactic and curative treatment with a record of the peculiarities of immunity transferred through the mother terminate a very interesting paper.

[*B. abortus* is shown by the flocculation test to join the *melitensis* rather than the *paramelitensis* group.]

P. W. B-S.

BURNET (Et.). **Différenciation des** *Paramelitensis* **par la floculation sous l'action de la chaleur.**—*C.R. Acad. Sci.* 1925. June 29. Vol. 180. No. 26. pp. 2085–2087.

The author found that when simple saline suspensions of *melitensis* and *paramelitensis* were heated in a water bath to 90°, a very rapid flocculation occurred with the latter but not with the former; hence a means of distinguishing between the two. Strains of *B. abortus* tested in the same way did not flocculate, differing thus from *paramelitensis*. Flocculation of *paramelitensis* varies in degree; the strains that showed it best were those that gave the *paramelitensis* characters most strongly. When a deposit is tested a second time the flocculation of the suspension is much more unstable, coming down at ordinary temperature in a few hours. Tested with anti-sera the agglutinability of *paramelitensis* is increased, that of *melitensis* diminished. If *melitensis* is cultivated in broth of *paramelitensis* killed by heat, the *melitensis* acquires the flocculation properties of the para. The author does not explain these results, but suggests that they conform with the conditions of agglutination of bacteria, that the flocculation by heat appears to be an extension of spontaneous agglutination, and is possibly due to alteration of the surface tension of the bodies. It is curious that *paramelitensis* shows (1) spontaneous agglutination; (2) flocculation by heat; (3) agglutination with non-specific sera; (4) it is feebly antigenic. He asks: have these a common cause?

[The reviewer has found this flocculation very definitely present in *paramelitensis* strains and not in *melitensis* and *abortus* strains in his possession.]

P. W. B-S.

BURNET (Et.). **Sur la notion de** *paramelitensis.*—*Arch. Inst. Pasteur de Tunis.* 1925. July. Vol. 14. No. 3. pp. 247–263. [11 refs.]

The author by systematic serum tests (human and animal) divided his 30 *melitensis* strains into two definite groups, varying in antigenic properties and producing different antibodies; *B. abortus* belongs to No. 1, though it is a subgroup of it. The observations on which these conclusions were founded are fully reported, but most of them have been stated in previous papers (abstracted); here the evolution of the facts is clearly and definitely recorded.

Stated shortly, it is possible to distinguish among the *melitensis-abortus* organisms, by agglutination and absorption tests, two groups, which are provisionally called i and ii. Group ii corresponds with those strains recognized as *paramelitensis*. This is a very real group: it possesses the characters (mostly antigenic) defined by BASSETT-SMITH, and heating an emulsion of the organism to 90° causes flocculation. It is not a *melitensis* organism which has become non-agglutinable. The serum of inoculated goats and rabbits is strongly specific and has little or no agglutinins for group i. These *paramelitensis* organisms are not rare, about 30 to 40 per cent. of strains in Tunis, and they are the cause of many diagnostic errors. The author thinks the terms para and pseudo should be dropped altogether.

P. W. B-S.

BURNET (Et.). **Sur le *paramelitensis* et sur l'emploi des termes paramelitensis, paratyphiques, paraméningocoques, etc., dans la nomenclature des bactéries.**—*C. R. Soc. Biol.* 1925. July 10. Vol. 93. No. 24. pp. 340–342. [1 ref.]

As is well known, the term *pseudo-* or *para-melitensis* has been used for a definite variety of the *melitensis* group, which was described by Ed. SERGENT, NÈGRE and RAYNAUD, and others. The first human case was observed in 1912 by BASSETT-SMITH, who recognized in the organism the following characters :—(1) More bacillary in character than *melitensis* ; (2) more agglutinable by non-specific sera ; (3) greater tendency to auto-agglutination ; (4) produces less specific agglutinin and to a less titre in rabbits than *melitensis*. To these characters the author adds the flocculation test at 90° C. (see above).

That there is such an organism is generally accepted, and it has to be tested for serologically in all cases. Of 35 strains examined by the author at Tunis 14 belonged to the *paramelitensis* group. (It is common in goats.)

He would prefer to drop the prefix, as the differences on which the variety is separated are almost entirely serological, and cannot compare with those of typhoid and paratyphoid, but rather correspond with those of the Meningococcus and Pneumococcus 1, 2, 3, and 4. He would have *melitensis* 1, 2 and drop para and pseudo altogether, as this terminology would be more in accordance with scientific language.

[The method suggested would be welcomed, but the position of *B. abortus* is not clear. One gathers that it would fall in group 1, which would then be an anomaly, as some *melitensis*, according to the author's own showing (and that of others), can be definitely separated from all the other *melitensis-abortus* group.]

P. W. B-S.

TRENTI (Enrico). **Il valore della intradermoreazione nell' infezione melitense.**—*Policlinico.* Sez. Prat. 1925. June 1. Vol. 32. No. 22. pp. 767–770. [5 refs.]

The author tested BURNET's intradermal reaction in 9 cases of undulant fever and 70 patients suffering from other conditions, and found that it gave specific results. Others having recorded a positive also in some cases of tuberculosis, the author repeated his tests with 4 undulant fever patients and 40 others, 30 of whom were suffering from some other disease and 10 were healthy. He used 0·1 cc. of a filtered broth culture, 20 days old. That the four were definite instances of undulant fever was proved by blood culture and by agglutination, and he obtained absolutely specific results in all of them with one of the strains used. To other strains the reactions were irregular. It is worthy of special note that the agglutination and intradermal tests do not go hand in hand. Thus, a patient's serum might agglutinate a certain strain of *M. melitensis*, but the cutaneous reaction with the filtrate from that strain might be negative and *vice versa*. It is well, therefore, to employ the mixed filtrates from several ; the author himself uses six.

H. Harold Scott.

PONTICACCIA (Luigi). **Infezione umana da bacillo di Bang o nuove fonti e vie di contagio della febbre maltese ?**—*Giorn. di Clin. Med.* 1925. Apr. 30. Vol. 6. No. 6. pp. 218–224.

The author reports one case in detail and another briefly in which the symptoms were those of undulant fever and the disease ran a typical course, although this infection was unknown in the district. The first was a doctor who made a vaginal examination of a cow which had just aborted. Three days later one of the phalangeal joints of the right hand became swollen ; pus formed and the symptoms, subjective and objective, of the subsequent febrile condition were indistinguishable from undulant fever. His serum agglutinated two strains of *M. melitensis* up to 1 : 1,000 and 1 : 800, and strains of Bang's bacillus in dilutions of 1 : 1,000, 1 : 2,000 and 1 : 4,000.

Cases reported by others are referred to and the question of diagnosis is discussed. The author was not able to confirm the statement of FICAI & ALESSANDRINI as regards the relative thermostability of *abortus* agglutinins. [See this *Bulletin, ante,* p. 511.]

[The onset three days after the examination points to a mild infection with some pyogenic organism as well as the *B. abortus.*—P. W. B-S.]

H. Harold Scott.

POLETTINI (Bruno). **Ulteriore contributo allo studio dei rapporti fra "*Micrococcus melitensis*" e "*Bacillus abortus*" (Bang).**—*Pathologica.* 1925. May 1. Vol. 17. No. 395. pp. 241–242. [2 refs.]

The author suggests, on the lines of his previous work with the typhoid-paratyphoid group of organisms, that the anaphylactic reaction —injecting dried cultures of the bacteria of undulant fever and contagious abortion—may be used for differentiating the two. The use of the test, however, appears to be of dubious value since in the experiments detailed the reaction was obtained not by the strain of *B. abortus* used for the previous sensitizing injections but by a strain of *M. melitensis.*

H. Harold Scott.

BASTAI (P.) & CERRUTI (C.) [**Sulla epidemiologia della febbre maltese : Bac. di Bruce o bac. di Bang ?**]—*Minerva Medico.* 1925. Apr. 20. Vol. 5. No. 11. [Summarized in *Bull. Inst. Pasteur.* 1925. Aug. 15. Vol. 23. No. 15. p. 657.]

From the facts reported by FICAI & ALESSANDRINI, the authors draw the deduction that *M. melitensis* is pathogenic for cattle and pigs, and is able to cause abortion in cows and sows. [F. & A. state that melitensis and abortus are strictly specific, and can be distinguished clinically, morphologically, biologically and serologically, *ante.* p. 511.] The authors note that : (1) The serum of tubercular cattle does not agglutinate either melitensis or abortus ; (2) the anti-abortus agglutinins are not more resistant to heat than the antimelitensis. [Again at variance with F. & A.]

P. W. B-S.

BUCK (John M.). **The Differentiation of Primary Isolations of *Bacterium melitensis* from Primary Isolations of *Bacterium abortus* (Bovine) by their Cultural and Atmospheric Requirements.**—*Jl. Agric. Res.* Washington. 1924. Dec. 15. Vol. 29. No. 12. pp. 585–591. [24 refs.]

By a careful study of *primary* cultures from experimentally infected guineapigs the author finds that *B. abortus* (bovine) when grown on serum agar in an atmosphere with 10 per cent. CO_2 added, appears to develop more luxuriantly than in ordinary air, and that the colonies are easily distinguished from those of *B. melitensis* grown under the same conditions; with this latter organism no difference was noted under the two different atmospheres. The work of previous investigators is freely quoted, and the author states that the strains hitherto used have mostly been old and much subcultured.

[The reviewer has always found that in primary cultures *M. melitensis* is definitely coccoid and not bacillary, justifying the original designation "micrococcus."]

P. W. B-S.

RODRIGUEZ DE PARTEARROYO (Francisco). **Reacciones ganglionares en la melitococia.**—*Siglo Méd.* 1925. July 18. Year 72. Vol. 76. No. 3736. pp. 53–56. With 4 charts in text.

Brief records of two cases of undulant fever, one of them contracted accidentally from a culture. In both, a painful adenitis yielded to injections of a *M. melitensis* vaccine.

H. Harold Scott.

PASERO (P.). [**Syndrome emorragica nella febbre di Malta.**]—*Rivista Ospedaliera.* 1924. No. 18. [Summarized in *Bull. Inst. Pasteur.* 1925. Aug. 15. Vol. 23. No. 15. p. 660.]

Six cases in a family were attacked with undulant fever. In four the diagnosis was proved by serum reactions and in one there were marked enlargement of the liver and haemorrhagic complications.

P. W. B-S.

DENGUE AND UNCLASSED FEVERS.

SILER (J. F.), HALL (M. W.) & HITCHENS (A. P.). **Results obtained in the Transmission of Dengue Fever.**—*Jl. Amer. Med. Assoc.* 1925. Apr. 18. Vol. 84. No. 16. pp. 1163–1172. With 3 charts in text. [3 refs.]

In Manilla from July 24th a series of experiments was made on 42 American soldiers (volunteers) to determine the transmission of dengue by means of mosquitoes; the men were in screened wards and the mosquitoes were bred from the egg. In 83 biting experiments made by infected females of *Aëdes egypti* dengue was transmitted 25 times. The positive results were 60 per cent. All experiments with *Culex fatigans* were negative. The virus is present only during the first three days of the fever, and requires at least 11 days to develop in the mosquito before it can be transmitted, the insect thereafter remaining permanently infective. Fifty-eight per cent. of those who had suffered from the disease were immune, and in the remainder the course was modified.

These results are in striking similarity with those observed in yellow fever and suggest strongly some group relation, but in yellow fever the immunity produced is much more definite.

The work was apparently very carefully planned and carried out and full details are given, with charts.

P. W. Bassett-Smith.

BIDEAU. **Une épidémie de dengue avec complications à bord de l'aviso Antarès.**—*Arch. Méd. et Pharm. Nav.* 1925. Apr.–May–June. Vol. 115. No. 2. pp. 107–136.

An epidemic of dengue which lasted two months occurred on board the warship "Antarès," between Dakar and Bahia; the first case was notified before arrival at Bahia. The ship had been at Dakar for three weeks, of which three days were spent in the dock, and it is stated that there was no dengue there at the time. The epidemic probably originated in dock when mosquitoes were abundant; none were found on board after three days at sea or after arrival at Bahia.

The cases were at first mild, but later became more severe and were very like malaria. Eighty-five out of a crew of ninety-seven were affected, and forty-three were sent to hospital with gastro-intestinal symptoms and, rarely, jaundice. There was marked leucopenia, but no parasites were found in the hospital cases; among these there was one death. Full details of the cases are given and the diagnosis was dengue modified by the climate.

P. W. B-S.

RODRIGUEZ ARJONA (Vicente). **Contribución al estudio de las enfermedades tropicales. Enfermedades endémicas de Yucatán. El dengue.**—*Rev. Yucateca de Dermat. y Parasit.* Merida, Yucatán. 1925. May 15. Vol. 1. No. 1. pp. 2–12. With 2 text figs.

A general description of dengue based upon personal observations of a widespread epidemic in Yucatán in 1917, but bringing forward no fresh facts.

H. Harold Scott.

PATRIK (N. P.). **"250 Cases of Febris Pappataci."**—*Russian Jl. Trop. Med.* 1924. No. 4–5–6. English summary p. 121. [In Russian.]

The author notes that 250 cases of sand fly fever occurred in the Russian Army in the district of Urmia in Persia during the Great War, and gives a clinical account of several cases.

P. W. B-S.

NORMAN (C. E. S.) & RAMACHANDRAN (C. S.). **A Case of Tick Typhus.** —*Indian Med. Gaz.* 1925. May. Vol. 60. No. 5. p. 222.

The clinical symptoms are described in detail. There was every probability of the patient having been bitten by ticks but no absolute proof; as far as could be seen lice were excluded. It is stated that the spots could still be seen three weeks after the patient was discharged. The blood gave a strong positive Wassermann and negative Weil-Felix. No temperature chart is given.

P. W. B-S.

FLETCHER (William) & LESSLAR (J. E.). **Tropical Typhus in a Training Camp.** [Abstract.]—*Monthly Bull. of the Eastern Bureau.* Singapore. (League of Nations, Health Section.) 1925. Apr. 20. Year 1. No. 1. pp. 21–22.

In the Malay States there is a typhus-like fever similar to that described in India, China, Australia, and Mexico, which is sporadic, little-infective and is not carried by lice. The authors cite five cases which occurred in a British regiment at Kuala Lumpur between 9th Oct. and 7th Nov. 1924. In all the cases the Weil-Felix reaction was positive at a higher dilution than 1/200, and recovery was complete. Three days after the regiment left the camping ground a Tamil cowherd and, a few weeks later, two Punjabi carters were attacked. As the site of the camp was the principal grazing ground for cattle, tick transmission is possible, though not proved.

[The term "Tropical typhus" used by the authors is not as yet quite justified.]

P. W. B-S.

ANDERSON (G. V. W.). **Notes from Several Cases of Pseudo or Para Typhus.**—*Kenya Med. Jl.* 1925. May. Vol. 2. No. 2. pp. 42–48. With 1 chart.

In Kenya Colony a peculiar disease called "Spotted Fever" has been known for 12 years. Only one death has been reported, and this case suggested Brill's disease. Sporadic cases occur every year, most frequently in or about the rainy seasons, and never below an elevation of 5,000 feet. The onset is sudden, the course prolonged (8–16 days), the pulse is invariably slow relatively to the fever, and pains are generally severe. The rash, which is preceded by a temporary generalized erythema, comes out about the 5th day as a crop of papules, and continues erupting to the 10th or 11th day. It is widely distributed on the body, limbs and face, rarely on the scalp, and remains visible for 7–11 days after the fever has passed. Petechiae may be present. The spleen is slightly enlarged. The blood shows a leucocytosis, and an increase of the red cells with high colour index. Clinical notes of three cases are given.

P. W. B-S.

i. CLEARKIN (P. A.); ii. CLARKE (J. B.). **So-called Pseudo-Typhus.** [Correspondence.]—*Kenya Med. Jl.* 1925. Apr. Vol. 2. No. 1. pp. 28–29; May. No. 2. p. 54.

i. Stimulated by BALFOUR's recent article on pseudo-typhus, the author draws attention to the fact that the disease has been known at Nairobi for some years; it was often called dengue, but was recognized by ANDERSON. The author suggests cross immunity experiments to determine whether it is true typhus or not.

ii. It is stated that a case of this disease at Nairobi exactly resembled, clinically, the typhus seen in Mesopotamia. The author, with Clearkin, deprecates haste to invent a new disease until the possibility of its being an old one has been excluded.

P. W. B-S.

SLOT (J. A.). **Een geval van vlektyphus.** [A Case of Typhus Fever.]—*Geneesk. Tijdschr. v. Nederl.-Indië.* 1925. Vol. 65. No. 2. pp. 267–274. With 1 chart in text.

A case of pyrexia of 10 days' duration, showing a petechial rash, in a Javanese at Sourabaya, is (after exclusion of other possible diagnoses) considered to be an isolated case of typhus fever on account of the clinical picture (which was, however, complicated by icterus), and a 1 : 400 positive Weil-Felix reaction. [Pyrexia of unknown origin being still common enough in the tropics, and in view of the facts that typhus fever has never been reported in the Dutch East Indies, and that nothing is known of possible influence of tropical diseases or other tropical influences on the results of the Weil-Felix reaction, this conclusion appears to the annotator to be subject to some doubt.]

W. J. Bais.

DE MELLO (F.), BRAS DE SÁ & COLOPO (G.). **As febres remitentes de Gôa são contagiosas e provocam epidemias.**—*Bol. Ger. Med. e Farmacia.* Bastora. 1924. Sept. 9th Ser. No. 9. pp. 373–383.

This is an interesting paper adducing much evidence to controvert the widespread idea that the "remittent fever of Gôa is non-contagious." By clinical observation and by bacteriological examinations it was shown that some at least of these cases are definitely enteric fever. The author has succeeded in tracing from one to another a local epidemic of 13 cases in the college of Arporá, each of which had been diagnosed as an isolated instance of "gastric fever." He next shows that several cases have occurred in the same household, 5 in two instances, 6 in another, 7 in a fourth. Finally, a series of 8 cases in Nachinolá, also reported as suffering from remittent fever, proved to be infections with *B. typhosus*. Five of these were clearly traced, three to a single patient.

H. Harold Scott.

DE MELLO (Froilano) & BRÁS DE SÁ. **Origem das febres tifoides em Gôa.**—*Bol. Ger. Med. e Farmacia.* Bastora. 1924. Oct. 9th Ser. No. 10. pp. 397–408.

An analysis of the cases of typhoid fever occurring in Gôa was made on the lines of the work of Colonels HARVEY and GREIG in India.

The authors show that the curve of the rainfall bears a definite relation to primary cases in July and August, but that a secondary rise occurs in the later months of the year owing to carriers who contracted the disease in the summer. Two instances are recorded in which one case was the source from which 6 and 4 others respectively contracted infection.

H. Harold Scott.

DE MELLO (F.), BRÁS DE SÁ, & COLOPO (Gonopote X.). **Observações clínicas das febres remitentes de Gôa e sua identificação pelo diagnóstico Bacteriológico.**—*Bol. Ger. Med. e Farmacia.* Bastora. 1924. Nov. 9th Ser. No. 11. pp. 446–484.

Brief notes of 71 cases of "remittent fever" in Gôa. A former paper on the same subject has been already reviewed (*ante*, p. 124). 49 were proved to be typhoid fever by cultivation from the blood or faeces and by Widal's reaction, 3 were paratyphoid, 4 malaria; 11 were not diagnosed, but 8 of these at least were probably enteric, and one was a case of tuberculosis. In several the common mistake had been made of regarding the case as malaria and treating the patient with quinine until the continuance of the fever led to further investigation.

H. Harold Scott.

RISQUEZ (F. A.). **La epidemia de fiebre eruptiva en Caracas.**—*Gac. Med. de Caracas.* 1925. Mar. 15. Vol. 32. No. 5. pp. 65–66.

The author gives an account of an epidemic in Caracas in which he himself saw between 20 and 30 cases within a brief period. The symptoms were as follows: Sudden onset of fever to 40° C. or higher, with sore throat; a rash, usually morbiliform, on the trunk and limbs on the second day; on or about the fifth day articular pains involving the wrists, elbows, knees and ankles successively. The fever and pains subside in another five days, perhaps with a slight desquamation. The patients were practically all children. In two instances there were catarrhal symptoms, and the rash did not appear till the fifth day; in these also there was no sore throat. One case was complicated with otitis media; in none was there any albuminuria.

The condition is unlike scarlatina in the character and distribution of the rash, the absence of albuminuria and the desquamation. Except in the two cases, which were probably definitely measles, the symptoms differ altogether from those of this disease. The degree of fever and the severity of the sore throat are against a diagnosis of German measles. The author mentions "Fourth disease," but does not regard it as a clinical entity. On the whole, he is inclined to consider the epidemic as one of mild and atypical scarlatina.

H. Harold Scott.

TROPICAL OPHTHALMOLOGY: A REVIEW OF RECENT ARTICLES.—IV.*

THE EYELIDS.—PETERSON[1], writing on the etiology and treatment of symblepharon, states that four groups of the condition are met with in China, viz.: (1) The result of the introduction of irritants—caustics, native medicines, and caterpillar hairs; (2) the result of conjunctival inflammations, of which trachoma is the most frequent cause; (3) the result of penetrating injuries; (4) the result of xerophthalmia. He treats the deformity by the use of dermic grafts on stents of dental modelling wax after the technique of GILLIES. WILDER's principles are followed in the construction of the cul-de-sac; these are (1) early operation; (2) the dissection for the cul-de-sac is made as close to the tarsus as possible; (3) a larger graft is used than the area needs; (4) the dissection is carried right down to the orbital periosteum; (5) all scar tissue is removed.

THE CONJUNCTIVA.—WOLBACH & HOWE[2] state that they have found very marked keratinous changes in the epithelial cells of rats which were deprived of fat-soluble A, and suffered from xerophthalmia in consequence. The epithelial lining of the upper respiratory tract, including the whole of the nasal passages, larynx, trachea and bronchi, was affected. Similar changes were found in the genito-urinary tract—renal pelvis, bladder, seminal vesicles, epididymis, and prostate gland. The epithelial degeneration was preceded by atrophy. The thyroid, testis and paraocular glands showed a striking atrophy. The authors conclude that "deprivation of the anti-xerophthalmic vitamin (fat-soluble A) affects specifically epithelial tissues. This effect is manifested in cells having presumably widely different chemical (secretory) function, and terminates in the complete loss of specific function and the transformation into a common type of chemically inactive (non-secreting) epithelium."

OKAMOTO[3], experimenting on young rabbits deprived of vitamin A, found that exposure to ultra-violet rays failed to prevent the development of xerophthalmia. Fresh vegetables or cod liver oil given by the mouth protect the animal against the eye disease; but glycero-calcium-phosphate fails to do so. Xerophthalmia differs from rickets in this respect.

SCHIMKIN[4] is of opinion that the Koch-Weeks bacillus is chiefly responsible for the epidemics of conjunctivitis which occur in Haifa during the summer. Koch-Weeks conjunctivitis is more common in Palestine than gonococcal conjunctivitis. He remarks that the inflammation caused by the Koch-Weeks bacillus renders the conjunctiva liable to be attacked by trachoma; and the combination of the two diseases produced specially grave corneal complications.

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* For the third of this series see above, pp. 446–452.

1 PETERSON (R. A.). The Etiology and Treatment of Symblepharon.—*China Med. Jl.* 1925. Apr. Vol. 39. No. 4. pp. 309–313. [4 refs.]

2 WOLBACH (S. Burt) & HOWE (Percy R.). The Epithelial Tissues in Experimental Xerophthalmia.—*Proc. Soc. Experim. Biol. & Med.* 1925. Apr. Vol. 22. pp. 402–403. [1 ref.]

3 OKAMOTO (Takashi). Studies on Experimental Xerophthalmia.—*Japan Med. World.* 1925. July 15. Vol. 5. No. 7. pp. 180–183.

4 SCHIMKIN. A Contribution to Epidemiology of Eye-Diseases in Haifa.—*Harefuah.* Jerusalem. 1925. Apr. Vol. 1. No. 4–5. English summary pp. VIII–IX. [In Yiddish pp. 194–206. With 9 text figs.] [12 refs.]

CHOU[5] reports that he has obtained excellent results from milk injections in the treatment of gonorrhoeal ophthalmia. On admission, 5 to 10 cc. of boiled milk is injected into the gluteus muscle of the patient. The injection is repeated on the second day and then omitted for a day, but given again on the fourth and fifth days. Fresh milk is boiled for 10 minutes and the fat is skimmed off; the milk is allowed to cool to body temperature and is then injected slowly. Local treatment is, of course, employed in addition. Some pain may be experienced at the site of injection.

MARTIN[6] reports a case of *tularemic infection of the conjunctiva* in a man who, whilst skinning a recently-killed wild rabbit, rubbed his hand across his eyes. Twenty-four hours later he was attacked by fever associated with an inflammation of the eyelid. A week later a large ulcer on the conjunctival surface of the lower lid and several smaller ulcers, free from induration, on the upper lid were seen. The eye was much inflamed and a small abscess formed at the inner canthus. The preauricular and cervical glands were painful and enlarged, but did not suppurate. The injection of pus, obtained from the lid-abscess, into guineapigs produced in them characteristic lesions. Agglutination tests, which were negative five days after the infection, were found to be positive on the seventeenth day.

TRACHOMA.—TRAPESONTZEVA[7], having studied smears and sections of trachomatous tissue, concluded that proliferation is as marked a feature in the reaction of the cells to trachoma as is any alteration in quality. The goblet-cells show marked changes. These cells are a normal constituent of the membrane, and are chiefly found in the culs-de-sac. Cell inclusions commonly form in the goblet cells as a result of a chronic irritation and first occur as granules of albuminoid matter in the mucus after the cell has undergone hyperplasia. The inclusions may assume a variety of shapes—crescents, etc., and, when present in quantity, signify the approaching destruction of the cell. These inclusions, of which the Prowazek bodies are an example, are in no way peculiar to trachoma. The author states that the central portion of the young trachomatous follicle is devoid of blood-vessels; the cells are consequently liable to necrosis. Polynuclear leucocytes are not usually found to any extent in uncomplicated trachoma, and, their presence signifies a secondary infection. The same writer[7a] has observed that the deep surface of the nictitating membrane of the dog frequently shows a development of follicles and papillae. Infective material from the eye of an untreated trachomatous patient was instilled into the eye of a dog, and eight days later signs of inflammation with follicle formation were seen on the deep surface of the membrane. A month after the inoculation the inflammation had faded away. Sections of the tissue showed characteristic pathological changes. It is suggested that the existence of this "*corps papillaire*" may render the dog a more favourable subject for experimental trachoma than has been supposed hitherto.

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5 CHOU (C. H.). Gonorrheal Ophthalmia.—*Nat. Med. Jl. China.* 1925. June. Vol. 11. No. 3. pp. 151–157. With 2 text figs.

6 MARTIN (Ancil). Tularemia Infection of Conjunctiva (Case Report).—*Southwestern Med.* 1925. June. Vol. 9. No. 6. p. 232.

7 TRAPESONTZEVA (C.). De certaines causes d'erreur dans l'étude histologique du trachome. (Note préliminaire.)—*Arch. Inst. Pasteur de Tunis.* 1925. July. Vol. 14. No. 3. pp. 288–301.

7a ——. De l'appareil folliculaire des chiens et de son importance pour l'étude expérimentale du trachome. (Note préliminaire.)—*Ibid.* pp. 302–308.

SHOJI[8] claims to have discovered a special spirochete in trachomatous material, and he considers that trachoma is caused by a spirochetal infection.

WADA[9] believes that the use of polluted water is an important factor in the spread of trachoma in Kwangtung.

DE WAAL[10] recommends subconjunctival injections of cyanide of mercury for trachoma. He claims the following advantages for the treatment: (1) It is simple and can easily be administered by the general practitioner; (2) it may be used in polyclinical treatment; (3) it is of short duration; (4) it is not very painful; (5) there are no untoward sequelae; (6) it is inexpensive. He repeats the injections every five or seven days.

BARBIERI[11] states that trachoma has been introduced into the Argentine by immigrants, chiefly by Italians, Spaniards, Turks, Arabs and Russians. It is now widespread, but is a serious menace in certain provinces only. The efficient examination of immigrants, with the rejection of infected persons and the compulsory treatment of trachomatous persons, is recommended. Care, too, should be taken to isolate and to treat infected children in the schools.

The *Revue du Trachome* for April, 1925, records the proceedings of the meetings of the scientific section of the *Ligue du Trachome* in November, 1924, and March, 1925. A. TERSON[12] reviewed the therapeutic measures usually employed in the treatment of trachoma, and described the technique, used by his father, of jequirity applications in cases of severe pannus. Subsequent speakers remarked upon the improvement in such cases which often followed on an attack of purulent ophthalmia, facial erysipelas, or the use of milk injections; this being due, of course, to an alteration in the lymph circulation. ABADIE[13] stated that DE WECKER, under whom he had studied, sometimes obtained excellent results with jequirity, but finally was forced to abandon the use of the drug as he found it so difficult to control the violent reaction it produced. J. SEDAN[14] reported finding children in two different families to be infected by their trachomatous nurses, and he pointed out how important it is to ensure that the eyes of attendants on children are free from infection. LUSSICH-MAKTOVITCH[15] observed some cases of auto-infection in soldiers during the war. He stated that the first signs of the trachoma always appeared in the

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8 SHOJI (Matasaburo). [On the Causative Agent of Trachoma as it is seen from the Viewpoint of Spirochetosis.]—*Tokyo Ijishinshi* (*Tokyo Med. News*). 1924. Nov. No. 2397. [Summarized in *Japan Med. World*. 1925. Feb. 15. Vol. 5. No. 2. pp. 41–42.]

9 WADA (H.). A Probable Factor in the Spreading of Trachoma in Kwantung. —*Taiwan Igakkai Zasshi* (*Jl. Med. Assoc. of Formosa*). 1925. May. No. 242. English summary p. 3. [In Japanese.]

10 DE WAAL (E.). Behandeling van trachoom met subconjunctivale injecties van kwikcyanide.—*Geneesk. Tijdschr. v. Nederl.-Indië.* 1925. Vol. 65. No. 1. pp. 41–49.

11 BARBIERI (Antonio). Le trachome dans la République Argentine.—*Bull. Office Internat. d' Hyg. Publique.* 1925. Apr. Vol. 17. No. 4 pp. 356–374. [9 refs.]

12 TERSON (A.). Quelques éléments techniques de la cure du trachome.—*Revue du Trachome.* 1925. Apr. Vol. 2. No. 2. pp. 61–69. With 5 text figs. [12 refs.]

13 ABADIE: discussion of Terson.—*Ibid.* pp. 69–70.

14 SÉDAN (Jean). Sept cas de contagion trachomateuse infantile du fait de "nurses."—*Revue du Trachome.* 1925. Apr. Vol. 2. No. 2. pp. 72–75. [1 ref.]

15 LUSSICH-MAKTOVITCH: discussion of SEDAN.—*Ibid.* p. 76.

plica semilunaris, and spread to the superior cul-de-sac in the second week after the inoculation. In very rare cases the infection remained limited to one eye. Dragoutine KOSTITCH[16] found the incidence of trachoma to be 14·2 per cent. amongst 6,000 patients treated in the ophthalmic clinic at Belgrade.

In the *Revue* of July, 1925, MORAX[17] states that he considers infantile contamination to be a more important factor than adult infection in the dissemination of trachoma. If the mother is trachomatous, her children rarely escape the disease, even though they may be only infants. The chronic nature of the disease is an aid to diagnosis, and he says trachoma may remain latent and infective throughout a long period. COLLIN[18] strongly advocates peritomy as a treatment for pannus. He makes a thorough dissection and divides the entire thickness of the tissues. NIDA[19] reported the successful treatment by milk injections of a case of trachoma, complicated by a dangerous corneal ulcer, in a man aged 47. Only one eye was affected. 10 cc. of twice-boiled milk was injected intramuscularly about every six days. Some doubt as to the diagnosis of the disease was expressed by subsequent speakers. COLLIN[20], recording a high incidence of trachoma in South Annam, found that the disease was diminishing in those schools in which injection and treatment were efficiently carried out.

THE CORNEA.—WRIGHT[21] recommends the following treatment for large staphylomata of the cornea. A sclero-corneal trephining is first performed, and the collapsed, staphylomatous tissue is then cauterized. The electric cautery is applied so as to form lines radiating from the centre to the periphery of the area. Wright remarks how common it is to find that the posterior segment of the eyeball is perfectly normal, even though the corneal projection has reached a very large size.

MILLOUS & DONG-NGOC-DIEU[22] have noticed that corneal ulcers, especially those of the facetted and neuro-paralytic types, occurring in patients suffering from hookworm disease, frequently take a favourable turn after the intestinal infection has been successfully treated; and they have formed the opinion that such ulcers are often directly due to poisons elaborated by the parasites.

THE LENS.—A paper by CRUICKSHANK[23] deals with the subject of BARRAQUER's operation of phakoerisis. Surgeons practising in the tropics are likely to experience difficulties when using the vacuum

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16 KOSTITCH (Dragoutine). Sur le trachome en Serbie.—*Revue du Trachome.* 1925. Apr. Vol. 2. No. 2. pp. 80–96. [18 refs.]

17 MORAX (V.). L'étiologie du trachome fléau social.—*Revue du Trachome.* 1925. July. Vol. 2. No. 3. pp. 101–108.

18 COLLIN. Un perfectionnement de la périectomie dans les pannus granuleux. —*Revue du Trachome.* 1925. July. Vol. 2. No. 2. pp. 108–111.

19 NIDA. Un cas de trachome unilatéral compliqué d'ulceration cornéenne grave traité avec succès par galactothérapie.—*Revue du Trachome.* 1925. July. Vol. 2. No. 3. pp. 112–116. [7 refs.]

20 COLLIN. Rapport sur l'inspection oculistique des écoles des provinces du sud Annam (Février 1925).—*Revue du Trachome.* 1925. July. Vol. 2. No. 3. pp. 118–122.

21 WRIGHT (R. E.). Conservative Operative Treatment of Large Staphylomata of Cornea.—*Arch. of Ophth.* 1925. Jan. Vol. 54. pp. 55–57.

22 MILLOUS (Pierre) & DONG-NGOC-DIEU. Ulcères de la cornée et uncinariose. —*Ann. de Méd. et de Pharm. Colon.* 1924. Sept.–Oct.–Nov.–Dec. Vol. 22. No. 3. pp. 408–411. [1 ref.]

23 CRUICKSHANK (M. M.). Phacoerisis: Observations on the Technique, with a Report on 115 Consecutive Cases.—*Brit. Jl. Ophth.* 1925. July. Vol. 9. No. 7. pp. 321–351. With 21 text figs. [20 refs.]

pump employed by Barraquer ; the instrument may develop defects, or electric power may not be available. CRUICKSHANK states he found the mercury vacuum apparatus supplied by Messrs. Down Bros. to be entirely satisfactory. The article contains many useful hints on technique. In this operation, as in all others for the extraction of cataract, it is highly important to make a sufficiently large incision. The author rightly stresses this point, and demonstrates how too small a wound may lead to a turned section as well as to many other complications.

DAVIS[24] claims that, by using injections of lens-antigen in 131 cases of cataract, he arrested the progress of the disease, and improved the vision in 86 eyes—65·64 per cent., and arrested the progress of the disease without any improvement of the vision in 36 eyes—27·48 per cent. The treatment failed to benefit 9 eyes—6·87 per cent. The treatment must be commenced early to be of any use. Cortical opacities alone are benefited, and no absorption of the lens nucleus occurs. O'CONNOR[25] has reported the successful treatment of cataract by lens discission in patients more than 25 years of age. Six of his patients were over 35 years old, one of them being 48. HARSTON[26] considers that an ocular tension higher than 25 mm. and lower than 18 mm., as recorded by a Schiotz tonometer, contraindicates extraction of the lens in its capsule. He concludes " There can be no question that the intracapsular method of extraction, when successful, gives the most brilliant result of any operation . . . On the other hand, I have not the slightest hesitation in affirming without fear of contradiction that the combined method, extracapsular extraction with iridectomy, is the safest of all methods." HARSTON prefers to employ capsulotomy forceps to rupture the capsule and uses novocaine and adrenalin to obtain anaesthesia.

MACPHAIL[27], speaking from an experience of about 17,000 operations for cataract, says that he prefers to perform an iridectomy and to rupture the anterior layer of the lens capsule with his knife as he passes it across the chamber. He considers the glare of the tropical sun to be a cause of cataract, as most of his patients come from hot, dry, inland regions. His statistics for the year 1923 showed a suppuration rate of 1·2 per cent.

KIRKPATRICK[28], discussing the question of primary cataract in South India, remarks that typical lamellar cataract is comparatively rare there. Cataract in some form was responsible for 12·5 per cent. of the admissions to the out-patient department of the Government Ophthalmic Hospital during three years, in which a total of 52,994 persons were admitted. With regard to senile cataract, the varieties met with at operation were : Swelling type, 57·6 per cent. ; shrinking type, 33·9 per cent. ; nuclear, 8·5 per cent. It is suggested that it is important, when considering the aetiology of primary cataract, to avoid the separate discussion of each variety of the disease, and to

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24 DAVIS (A. E.). Serum and Lens-Antigen Extract Treatment for Prevention and Cure of Cataract.—*Arch. of Ophth.* 1925. Mar. Vol. 54. pp. 172–182.

25 O'CONNOR (R.). Discission of the Lens after the 25th Year.—*Amer. Jl. Ophth.* 1925. Jan. Vol. 8. pp. 54–55.

26 HARSTON (G. Montagu). The Choice of Operation in Extraction of Cataract. —*China Med. Jl.* 1925. Mar. Vol. 39. No. 3. pp. 199–203.

27 MACPHAIL (James M.). Cataract Extraction. Notes on 17,000 Operations. —*Indian Med. Gaz.* 1925. Aug. Vol. 60. No. 8. pp. 357–361.

28 KIRKPATRICK (Henry). Some Aspects of Primary Cataract.—*Trans. Amer. Acad. of Oph. & Oto-Laryngol.* 1924.

regard the condition as a degeneration of the lens cells induced by the local action of injurious influences at a time when the constitutional state is abnormal. In South India exposure to heat and glare is likely to damage the lens fibres, especially if the local resistance is lowered by the commonly existing conditions of (1) a diet which is badly balanced and deficient in vitamins, (2) gastro-intestinal disease and diabetes, (3) excessive in-breeding, (4) a high rate of syphilitic morbidity. Some of these conditions prejudice the health of the endocrine glands, and their effect is most likely to be felt at a time when the harmonious working of the endocrine system is disturbed by the gonad deficiency due to the onset of senility. Abnormal calcium metabolism seems fairly common in cataract patients, and it is possible that endocrine disturbances, especially of the parathyroid and thyroid glands, may play an important part in the constitutional cause of cataract. The outstanding features of the Madras operation for senile cataract are: (1) Preliminary capsulotomy; (2) irrigation; and (3) lid-control. Capsulotomy is performed with a Bowman's needle immediately before making the section.

MacCallan[29], in a paper upon the technique evolved by him for cataract extraction in Egypt, describes the very careful preliminary treatment to which the patient is subjected. Special attention is paid to the elimination of oral sepsis. Preliminary capsulotomy, a small conjunctival flap, and a peripheral iridectomy after lens delivery, are the leading features of the operation. Cortical lens matter is washed out by an irrigator. Old patients with bronchitis and restless patients are found to remain quieter if they are placed in a deck chair after operation instead of being subjected to rigorous restrictions. Dark glasses are given between the sixth and tenth days. Secondary cataracts are often needled 10 days after the extraction. No operation is performed on a cataractous eye if its fellow is in a state of phthisis bulbi until the latter has been removed. This is a point whose importance is not always appreciated as much as it deserves to be. A form of juvenile cataract associated with anaemia is discussed; the principal causes of the anaemia are ankylostomiasis and bilharziasis.

Expulsive choroidal haemorrhage during cataract extraction.—Fortunately, in the experience of most surgeons, this most disastrous complication is but seldom encountered. (It occurred four times in a series of 2,731 cataracts operated upon in Madras.) Cruickshank[30], however, reports that 30 cases occurred in 2,777 cataract operations performed during two seasons at the Shikapur clinic; and he attributes this high rate to a correspondingly high incidence of glaucoma. The routine use of the tonometer during the selection of cases for operation was followed by a striking reduction in the incidence of expulsive haemorrhage, only one case occurring in 1923 and three in 1924. The rule is made that, when the eye registers as high a tension as 42 mm. with a McLean's tonometer, the case is reserved for extraction with capsulotomy; and, when the tension exceeds 50 mm., an iridectomy is first performed, and this is followed by extraction in the capsule some three to twelve months later. Johnson[31] met with the com-

29 MacCallan (A. F.). Cataract Extraction in Egypt.—*Lancet.* 1925. Sept. 5. pp. 491–493.

30 Cruickshank (M. M.). Choroidal Haemorrhage following Cataract Extraction.—*Indian Med. Gaz.* 1925. May. Vol. 60. No. 5. pp. 213–217. [9 refs.]

31 Johnson (G. Lindsay). A Plea for Reviving the Operation of Couching.—*S. African Med. Rec.* 1925. May 23. Vol. 23. No. 10. p. 209.

plication on six separate occasions after having performed what seemed to him a perfectly-executed operation, either intra- or extra-capsular. This experience has led him to consider whether it would not be wise to couch the lens when the cataractous patient is old and suffers from arteriosclerosis and a high blood-pressure. This proceeding is unlikely to be regarded favourably by those surgeons who know the amount of hopeless blindness produced by the coucher in the East. Numbers of eyes are, of course, lost there through avoidable sepsis ; but, within a few months, glaucoma and degenerative changes claim a full 80 per cent. of those eyes which escape virulent septic infection.

GLAUCOMA.—VERHOEFF[32] found mucin to be abundantly present in the vitreous of a number of glaucomatous eyes ; and he suggests that this mucin is derived from the epithelial cells of the posterior part of the ciliary body and from the anterior part of the pars optica retinae. Cystoid degeneration of the peripheral retina is a common senile condition, and a consequent excess of mucin in the vitreous may occur. This change is not confined to old age. He postulates the theory that, with increasing age, the anterior hyaloid membrane, and possibly the whole vitreous body, becomes less permeable, whilst more and more mucin is secreted into the vitreous. The decreased permeability causes retention of the mucin, and this in turn further decreases the permeability of the vitreous so that a vicious circle is established. The vitreous increases in volume and the lens is pushed forward. In certain eyes the process reaches a stage when the root of the iris is pushed against the ligamentum pectinatum, and the intraocular pressure then rises.

CELLULITIS OF THE ORBIT.—WRIGHT & TAYLOR[33] emphasize the importance of infective processes in the nasal sinuses as a cause of orbital cellulitis, and have found infection of the ethmoidal cells most liable to lead to invasion of the orbit. Syphilitic osteitis and periostitis with empyema is, perhaps, the commonest frontal sinus condition associated with orbital abscess. To explore or drain the outer aspect of the orbit, they recommend a curved incision through the outer third of the brow parallel with the orbital rim and a short distance outside it ; the incision is carried just below the outer canthus and over the malar bone right down to the periosteum. Access to the orbit is gained by raising the periosteum and the periorbital membrane. Incisions made parallel to the lower margin of the orbit should be avoided owing to their liability to be followed by ectropion. To explore the upper nasal quadrant, a curved incision is made from just below the inner end of the brow mesial to the supraorbital notch to a point mid-way between the attachment of the internal tarsal ligament and the middle line. It is, of course, necessary to deal with the source of the infection after the orbit has been drained.

OCULAR SPARGANOSIS.—COLLIN[34] reports 27 cases of this disease, in which the larval form of the *Dibothriocephalus mansoni* becomes encapsuled in the tissues. More than half the patients were women, and in about one-fifth both eyes were affected. Three main types were

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32 VERHOEFF (F. H.). The Pathogenesis of Glaucoma.—*Arch. of Ophth.* 1925. Jan. Vol. 54. No. 1. pp. 20–37.

33 WRIGHT (R. E.). & TAYLOR (C. G.). Cellulitis of the Orbit.—*Indian Med. Gaz.* 1925. July. Vol. 60. No. 7. pp. 312–316.

34 COLLIN (L.). La sparganose oculaire en Annam.—*Ann. de Méd. et de Pharm. Colon.* 1925. Jan.–Feb.–Mar.–Apr. Vol. 23. No. 1. pp. 20–33. With 1 plate.

seen—palpebral, subconjunctival, and orbital. The last type is specially dangerous, as it is likely to produce a proptosis and lagophthalmos which may lead to destructive secondary changes. Puffy, hard, tender, bosses form, mostly on the outer third of the upper eyelid, and oedema is often present. Marked chemosis often develops over the area beneath which the worm lies encapsuled. Considerable pain is frequently experienced. The disease is treated by the excision of the fibrous nodule in which the worm is embedded; and several of such nodules may be present. COLLIN is unable to state how the infection may be propagated.

MALARIA.—WORMS & PESME[35] report cases of retinal haemorrhages, optic neuritis, retrobulbar neuritis, and ophthalmoplegia occurring in malarial subjects which they consider were due to the protozoal infection. In some of the cases the eye trouble was preceded by attacks of herpetic and dendritic keratitis in the etiology of which malaria admittedly may play an important part.

GENERAL.—Professor SIDNEY RUSS and Sir ARNOLD LAWSON[36] have dealt with the susceptibility of nocturnal animals to ultra-violet radiation. RUSS, experimenting on naval men during the war, found that the acuity of their vision for distant and dimly-lighted objects could be increased by about 15 per cent. if their eyes were first flooded with very small intensities of blue and violet light. Attention was then directed towards the question of visual acuity under ordinary night conditions, and experiments were made in order to ascertain how transparent the eye is to different regions of the spectrum. These showed that the human eye is very absorbent of rays having a wave length shorter than about 3,000 Angstrom units. The eyes of nocturnal animals, on the other hand, especially of the owl and the tiger, were found to transmit rays of a much shorter wave-length; and it is suggested that this may possibly account for their ability to distinguish objects in the dark. LAWSON suggests that an extra susceptibility to ultra-violet radiation may be present in the eyes of those persons who possess an extra keenness of vision, and that the various gradations of keen sight shown by different people may to some extent be explained in this way.

The Report of the Madras Government Ophthalmic Hospital[37] for 1924 contains much information of value to all ophthalmic surgeons, especially to those engaged in tropical practice.

It is sad to read that, for financial reasons, the Government was obliged to restrict admissions, and that the number of operations for senile cataract fell from 1,613 in 1923, to 1,468 in the year under review in consequence. 3,951 in-patients and 23,430 out-patients were admitted, and 4,324 operations were performed during the year.

92·29 per cent. of the patients operated upon for senile cataract obtained a vision of 6/36 or better at the time of their discharge; 3·2 per cent. had a vision of less than 2/60. The rate of vitreous loss (1·9

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35 WORMS (G.) & PESME (J. L.). Complications oculaires du paludisme.—*Arch. Méd. et Pharm. Milit.* 1925. Apr. Vol. 82. No. 4. pp. 508–522. [27 refs.]

36 RUSS (Sidney) with LAWSON (Arnold). The Susceptibility of Nocturnal Animals to Ultra-Violet Radiation.—*Proc. Roy. Soc. Med.* (Section of Ophthalm.). 1925. June. Vol. 18. No. 8. pp. 37–40. With 1 text fig.

37 MADRAS. Administration Report, Statistics and Professional Report of the Government Ophthalmic Hospital Madras for the Year 1924. [WRIGHT (R. E.), Supt.]—25 pp. With 17 figs. on 3 plates. 1925. Madras: Supt., Govt. Press.

per cent.) was remarkably low. WRIGHT, the Superintendent of the Hospital, favours a complete iridectomy in all doubtful cases; but when the iris is light coloured, has a really good tone, and shows no tendency to be washed into the wound by the irrigator stream, he prefers the simple operation. Button-hole iridectomy after lens delivery is occasionally performed. The irrigator is used freely in nearly every case.

Sclero-corneal trephining continues to prove the most satisfactory operation for glaucoma. WRIGHT remarks upon the importance of vitreous changes in glaucoma and asks: "What property of the disordered vitreous is it which in advanced cases re-establishes high tension almost instantaneously after its relief by evacuating the anterior chamber?" 2,288 cases of refraction error were dealt with. 803 out-patients suffered from trachoma, 703 from phlyctenular conjunctivitis, 79 from gonorrhoeal ophthalmia, and 5,424 from catarrhal conjunctivitis; 1,916 of these latter were due to the Koch-Weeks bacillus.

In association with the King Institute, investigations are being conducted upon ulcus serpens and trachoma.

An interesting reference is made to the comparatively rare occurrence of sympathetic ophthalmitis in the East. This rarity must be familiar to most ophthalmic surgeons who have Eastern experience. A record has been kept of those patients who might reasonably be expected to contract the disease; and 62 such have been noted since 1921; but so far not a single one has reported any trouble. Notes and illustrations, contributed by the members of the staff, of many interesting and unusual cases are included in the report.

H. Kirkpatrick.

HEAT STROKE.

SCAFFIDI (V.). **[Ricerche sperimentali sulla eziologia e patogenesi del colpo di sole.]** [Experimental Investigations on the Aetiology and Pathogenesis of Sun Stroke.]—*Arch. di Sc. Biol.* 1924. Vol. 6. p. 462. [Summarized in *Med. Sci. Abstr. & Rev.* 1925. May. Vol. 12. No. 2. pp. 147–148.]

Experiments were made on rabbits and guineapigs. The exhibition of an animal to the sun gives rise to symptoms of sunstroke when the radiations are capable of raising the body temperature to about 45° C. If the part exposed is the head the animals die when the endocranial temperature has reached 45° C., and the remainder of the body only 43°–44° C. If other parts of the body are exposed to the sun a similar rise of temperature occurs. The so-called sunstroke syndrome seems, therefore, chiefly due to a local over-heating. This is shown by control experiments in which a part of the body was over-heated in the dark. The results are, however, influenced by the time employed in raising the body temperature and the conditions of the surroundings in which the experiments are carried out.

J. H. Tull Walsh.

DI RENZO (F.) & AMODEO (P.). **[Ricerche sperimentale sulla fagocitosi. Fagocitosi spontanea e valore opsonico nel colpo di calore.]** [Experimental Phagocytosis. Spontaneous Phagocytosis and Opsonic Value in Sunstroke.]—*Arch. di Sc. Biol.* 1923–4. Vol. 5. p. 98. [Summarized in *Med. Sci. Abstr. & Rev.* 1924. June. Vol. 10. No. 3. pp. 249–250.]

The phagocytic value is increased during experimental hyperthermia caused by immersion in hot water. This increase is due to the increased opsonic power of the blood-serum and to modifications of spontaneous phagocytosis. Both the opsonic index and the spontaneous phagocytosis become normal as soon as the body temperature has reached the usual level. In sunstroke the phagocytic value is reduced owing to a constant and prevalent diminution of the opsonic power of the serum. Sunstroke and experimental hyperthermia appear, therefore, to be two different pathological conditions.

J. H. T. W.

PETRAGNANI (G.). **L'eziologia del colpo di sole.** [Aetiology of Sunstroke.] —*Arch. Ital. Sci. Med. Colon.* Tripoli. 1924. Jan. & Feb.–Mar. Vol. 5. No. 1 & 2–3. pp. 3–18; 33–44. With 4 figs. [25 refs.]

These two papers contain details of experimental work with white rats and guineapigs. Similar work has been done in many lands and noticed in this *Bulletin*; see Vol. 9, p. 168 (PUNTONI); Vol. 13, pp. 308–309 (KOIZUMI); Vol. 16, p. 66 (KOIZUMI); Vol. 20, p. 67 (RICHET fils).

J. H. T. W.

MISCELLANEOUS.

ROGERS (Leonard). **Pathological Evidence bearing on Disease Incidence in Calcutta.**—*Glasgow Med. Jl.* 1925. Jan. Vol. 103. New Series Vol. 21. No. 1. pp. 1–27. [13 refs.]

The Finlayson Lectures of the Royal Faculty of Physicians and Surgeons, Glasgow. The conclusions of the first part of this fully documented paper are as follows :—

"1. Both the post-mortem records and the vital statistics of Calcutta show that one-third of the mortality is due to tropical diseases, and two-thirds to those of world-wide distribution.

"2. The age incidence shows four times as many deaths in persons over 50 years of age in the London as in the Calcutta post-mortems, and this proportion is the same when the purely tropical diseases are excluded from the calculation.

"3. The Calcutta figures show a great excess over the London ones in deaths from septicaemia, tetanus, tuberculosis, lobar pneumonia, non-tubercular meningitis, and cirrhosis of the liver—the first, fourth, and fifth being caused by the streptococcal group of organisms, which are favoured by the high mean temperature and overcrowding in the houses.

"4. The London series shows a marked excess in the case of circulatory diseases, especially in the case of rheumatic endocarditis and mitral stenosis secondary to it, which is nearly, if not quite, absent in Bengal ; and to a less extent in atheromatous disease including aneurysms, due to the age factor, as atheromatous changes have a very similar age incidence in different decades of life in both series, and afford no evidence of especially early degenerative arterial affections to account for the shorter life of the Bengal race, while cerebral haemorrhages are also much more frequent in the London series, also on account of the age factor.

"5. The four-fold excess of cirrhosis of the liver in Bengal cannot be explained on the alcoholic theory of its causation, as that is a very small factor in India, but evidence is produced that it is secondary to chronic ulceration of the gastro-intestinal track, chiefly in the form of long-standing amoebic dysentery.

"6. The Indian races in Bengal have a lower resisting power against many specific diseases, such as pneumonia, cholera, dysentery, tuberculosis, fevers, etc., which are the most frequent causes of death in them, than Europeans living in Bengal, which is the main cause, in addition to the prevalence of tropical diseases, in their low expectation of life ; and is probably due partly to low racial vitality, most likely associated with the custom of early child marriage, and partly to insanitary conditions."

This may be supplemented by figures and details of special interest. The author points out that for accurate information about disease incidence in India we must turn to the post-mortem records of the few medical colleges. Here 1,600 post-mortems made at Calcutta are analysed and compared with 1,000 medical post-mortems performed at St. Mary's Hospital, London. Table I shows the percentage of mortality in Calcutta due to tropical diseases, which, if half the cases of fevers of uncertain origin are added to the vital statistics column, amount to one-third of the total.

TABLE I.—PERCENTAGES OF TOTAL CALCUTTA MORTALITY DUE TO TROPICAL DISEASES.

Disease.	1,600 post-mortems.		Vital statistics, excluding children under 5 years.
Malaria	1·56	9·99	—
Kala azar	8·06		6·2
Plague	0·37		0·15
Cholera	9·69		9·0
Amoebic dysentery	5·69	10·5	
Bacillary dysentery	4·12		9·3
Doubtful forms	0·69		
Amoebic liver abscess	2·69		1·8
Infantile liver	—		2·4
Ankylostomiasis	0·19		—
Beri-beri	0·37		0·1
Leprosy	—		0·4
Total	33·43		29·35
+ Half-doubtful fevers ...	—		3·9
Total	—		33·25

In the vital statistics column children under five are omitted to make the figures comparable with the hospital returns, since few young children are brought for admission, and, on the other hand, the infantile mortality is enormous. Another table shows the age distribution in each series of hospital cases. In the Calcutta figures children up to 10 make 2·5 per cent., whereas in London they make 16·9, and at the other end of life whereas 32 per cent. in the London figures are over 50, only 7·7 are in this category at Calcutta. The Census figures are also given and show that whereas there is an excess of children under 10 in Bengal, over 50 the Bengal figure is half that of England, 8·35 against 16; *i.e.*, fewer persons survive.

TABLE III.—PERCENTAGES OF DEATHS IN THE MAIN GROUPS OF DISEASES.

Group.	London post-mortems.	Calcutta post-mortems.	Calcutta vital statistics, *less* children under 5 years.
General	6·1	9·23	9·5
Tuberculosis	13·4	21·93	21·5
Circulatory	20·3	10·50	5·4
Respiratory	16·8	27·13	48·7
Digestive	7·5	12·00	7·2
Urinary	8·6	6·35	1·8
Nervous...	11·9	7·41	4·1
Malignant Disease ...	13·8	4·59	1·21
Remainder	1·6	0·84	—

Table IV is a further analysis of General Diseases and Tuberculosis.

TABLE IV.—PERCENTAGES OF GENERAL DISEASES INCLUDING TUBERCULOSIS.

General Diseases.	London post-mortems.	Calcutta post-mortems.	Calcutta vital statistics.	
			All ages.	Over 5 years.
Anaemia	1·5	2·34	0·6	0·9
Leukaemia	1·7	0·27	—	—
Diabetes	0·7	0·18	0·4	0·6
Diphtheria	0·5	0·18	0·37	0·1
Septicaemia	0·5	3·00	1·07	1·2
Tetanus	0·1	2·05	6·04	1·1
Typhoid	0·3	1·21	2·2	2·9
Tuberculosis.				
General	3·5 } 5·9	3.09 } 4·13	—	—
Meningitis	2·4	1·04		
Pulmonary	5·4	16·10	14·00	20·4
Primary Intestinal	0·0	1·04	—	—
Peritonitis	0·8	0·05	—	—
Other focus	1·0	0·09	0·76	1·0
Total	13·4	21·93	14·76	21·4

Table IV shows diabetes to be much more common in London than in the Calcutta figures; this is due to the fact that the disease is rare in Calcutta amongst the very poor. Septicaemia shows a high rate in Calcutta, and tetanus is twenty times as common; of 906 tetanus deaths in the 1921 returns no less than 785 were in infants, nearly all due to infection through the umbilical cord. Attention is drawn to the typhoid figures, though the low London figure is partly explained by the fact that such cases are seldom admitted now to general hospitals. In 1900 typhoid was believed to be rare in natives of India.

Tuberculosis accounts for no less than 21·93 per cent. of the non-tropical Calcutta post-mortems against 13·4 in the London data, and the pulmonary form is three times as common; this is partly discounted by the less common admission of such cases in London, but the Health Officer's returns for Calcutta give an incidence of over 20. Primary intestinal tuberculosis is not rare in Calcutta; this, it is suggested, is due to infection of food by indiscriminate spitting.

Table V gives the figures for non-tubercular respiratory diseases and circulatory diseases.

Here the frequency of lobar pneumonia is shown to equal that of phthisis; no less than 70 per cent. of the cases occurred between the ages of 21 and 40; and the incidence was highest among the Hindus. Broncho-pneumonia gives fairly equal figures in the two series.

In *circulatory diseases*, on the other hand, the London figures are twice the Calcutta, attributable to the rarity or absence of rheumatic endocarditis and pericarditis in Bengalis. In 4,800 post-mortems

in 37 years only one case was returned as rheumatic endocarditis, and in the pathological museum founded 100 years ago there is only one specimen from a Bengali subject. Pericarditis appears as more

TABLE V.—PERCENTAGES OF SYSTEMIC DISEASES.

System.	London post-mortems.	Calcutta post-mortems.	Calcutta vital statistics over 5 years.
Respiratory—			
Lobar pneumonia	4·2	16·03	17·9
Broncho-pneumonia ...	6·1	5·80	13·9
Bronchitis	4·7	3·00	14·5
Pleurisy and empyema ...	1·2	1·30	0·2
Others	0·6	1·00	1·2
Total	16·8	27·13	47·9
Circulatory—			
Ulcerative endocarditis ...	2·6	1·50	—
Rheumatic endocarditis ...	3·7	0·00	—
Pericarditis	0·4	0·75	3·8
Aortic valve disease ...	2·6	2·73	—
Mitral valve disease ...	4·3	0·93	—
Atheroma	2·4	1·41	—
Aneurysm	3·2	1·59	0·09
Others	1·1	1·59	1·30
Total	20·3	10·50	5·19

common in Calcutta than in London, 0·75 against 0·4; of 102 cases tabulated by the author only one was classed as possibly rheumatic, 74 being secondary to inflammatory condition of the lungs and pleura; the majority are pneumococcal. The incidence of valve disease also is different; in London mitral disease was the primary cause of death in 4·3 per cent. and aortic in 2·6, whereas in Calcutta the corresponding figures are 0·93 and 2·7; the comparative rarity of mitral disease is doubtless due to the rarity of rheumatic fever. Again, in London, the average age of death from mitral stenosis is 31·8 years, and that from aortic valve disease 51; but in Calcutta the corresponding ages are 30 and 32·3. The author explains the great difference of age in aortic valve cases by the Indian cases being of syphilitic origin and the London ones due in great part to the degenerative type of atheroma of later life. Mitral stenosis in Calcutta is probably also syphilitic. A consideration of the age incidence of atheroma did not show evidence of any material difference in the two series and certainly none of premature arterial degeneration in the Bengalis.

Table VII gives the figures for digestive, urinary and nervous diseases.

The enteritis figures are unexpected; the low Calcutta figure is explained by the small percentage of children admitted. However, gastro-enteritis is less common in Bengal than one would expect, and this is to be explained by the universal boiling of milk before use. The excess of cirrhosis in Calcutta cannot be explained by alcohol; the disease is frequent among very strict Mahommedans in the Punjab. The average age at death is 39·6, against 48 in Europe (ROLLESTON). When all the complications of the cirrhosis cases were tabulated it was found that in 25 to 30 per cent. dysentery had been present "usually in a chronic form or as scars of old dysenteric lesions," while

the percentage of the total cases other than cirrhosis showing such lesions was only 8·8. It was concluded that the causative factor of

TABLE VII.—PERCENTAGES OF SYSTEMIC DISEASES (*concluded*).

System.	London post-mortems.	Calcutta post-mortems.	Calcutta vital statistics over 5 years.
Digestive—			
Gastric and duodenal ulcers	2·1	0·92	—
Enteritis	2·0	1·42	4·1
Cirrhosis of liver	1·3	5·91	2·0
Others	2·1	3·75	1·1
Total	7·5	12·00	7·2
Urinary—			
Parenchymatous nephritis...	2·3	1·96	—
Granular kidney	5·4	3·46	1·7
Others	0·9	0·93	0·06
Total	8·6	6·35	1·76
Nervous—			
Meningitis (non-tubercular)	2·4	3·29	1·1
Apoplexy	6·2	1·96	2·9
Others	3·3	2·16	0·2
Total	11·9	7·41	4·1

cirrhosis in Bengal must be "toxic absorption through the portal circulation secondary to chronic forms of ulceration," and this is usually due to amoebiasis.

A. G. B.

RAMSAY (G. C.). **A Few Impressions on some Diseases of Assam.**—*Proc. Assam Branch Brit. Med. Assoc. Ann. Meeting. Jorhat, 2nd Mar. 1925.* pp. 6–9.

Quoting FORSYTH to the effect that in many estates of Assam pneumonia causes 30 to 50 per cent. of deaths, the author finds that in over 90 per cent. of cases the coolie gives a history of habitually sleeping on the floor; among better class coolies sleeping on a charpoy the disease is much less frequent. The migrations of round and hook worms are another probable cause and chronic malaria disposes to the infection. Chronic malaria, on the other hand, seems to mitigate the effect of spironemal diseases, for tertiary syphilis is mild and parasyphilis rare. Of bacillary dysentery, which represents 95 per cent. of the dysenteries among coolies at Cachar, he writes that all the antitoxic serum is imported; it is frequently inert, perhaps from improper storage, and should be manufactured by the Government. Ascites and oedema occur in old bacillary dysentery cases, and are possibly due to some other toxic factor. There is need for research into the relationship of eye-flies to epidemic conjunctivitis and Naga sores. Equine filariasis also is touched on, and the need for maintenance of medical research by the Government of Assam, which has recently lost the contribution of Calcutta (Rs. 40,000) to the Research Institute at Shillong.

A. G. B.

KING (G. E.). **Kansuh and its Diseases.**—*China Med. Jl.* 1925. Jan. Vol. 39. No. 1. pp. 19–22.

Kansuh, in north-western China, with a population of 10,000,000, contains but one medical missionary centre—a fact that surprises and discomforts the author.

The climate of the province appears to be delightful; the summer temperatures rarely exceed 95° in the shade, and the summer nights are cool; the autumn is "almost perfect"; the winters, though cold, are bright and sunny; the spring, however, is dusty. Anopheles is found in most places in the province, but malaria occurs only in the south-west. Kala azar cases are brought in from most parts, and respond well to tartar emetic. Syphilis is widespread, in nearly all its forms; a very large number of cases of optic atrophy is observed, in which no history of syphilis can be elicited. Tuberculosis, despite the climate, is one of the scourges of the province; the fact that during the cold winter nights people crowd round a kang, or brick stove-bed, without troubling about ventilation, ensures the spread of infection. Surgical tuberculosis is common, and so is tubercular peritonitis, although milk is not generally used. Anthrax occurs—a fact of importance, since there is a large export trade in skins and hides. During the last 10 years there have been two outbreaks of pneumonic plague in the higher plateaus, but bubonic plague seems to be unknown. Leprosy occurs among Tibetans and others in the vicinity of that people, often in the mixed form; nodular cases may be found living among the general populations, but in some districts lepers are cast out to live in caves among the hills. Smallpox, diphtheria, scarlet fever, measles, and whooping-cough are met with in populous centres. Typhus and typhoid are constant. Bacillary dysentery exists, but relapsing fever seems rare, and cholera is not known. Among parasitic diseases ringworm, favus, and itch are common; roundworm and threadworm are found, and among the Moslems tapeworm is prevalent. Hookworm has been searched for but never discovered. Kang-epithelioma, with secondary implication of the inguinal glands, is not infrequent; it can usually be removed, even after several years growth, without recurrence. Osteomalacia is prevalent among females. Opium is in very general use (but not morphia), the drug being smoked, eaten, or the ash eaten. The well-to-do who take opium seem to suffer little; among others the effect on lung and kidney "is most evident and distressing." The author, who has lived in the province for 10 years, finds the Chinese not so naturally phlegmatic and apathetic as is commonly supposed; their emotions are repressed rather than resigned, and neuroses, and particularly anxiety hysterias, abound among the population of Kansuh.

A. Alcock.

MONTGOMERY (Eustace). **On Some Diseases Intercommunicable between Man and Animals in East Africa.**—*Proc. Roy. Soc. Med.* (Section of Comparative Med.). 1925. Jan. Vol. 18. No. 3. pp. 5–9.

The following are the more important points of this suggestive paper:—

There occurs in East Africa, in jackals, and communicable to dogs and other animals, a disease having the symptoms of rabies and the accompaniment of Negri bodies, to the infection of which, as conveyed

by bite of dog and jackal, native Africans appear to be naturally immune. A disease with similar ambiguous phenomena occurs [as is well known] in West Africa. [This *Bulletin*, Vol. 18, p. 287; Vol. 20, p. 31.]

In East African medical reports before 1920 *Taenia solium* was stated to be the prevalent tapeworm, although pork is not usually eaten there either by Europeans or by natives. In reports since 1920 *T. saginata* is mentioned as preponderant. If the diagnosis be accepted, it may be, the author suggests, that the cysticercus of *T. solium* can adapt itself to some animal other than the pig, *e.g.*, ox or goat.

Although striking instances of fatalities from eating cattle dead of anthrax have occurred among natives in East Africa, cutaneous anthrax appears to be both rare and mild there—*e.g.*, " in the Kenya records, between 1919 and 1922, 135 cases were diagnosed in man with only 6 deaths.

Malta fever appears to be rare in Europeans in East Africa, but it was observed by BRUCE (in 1910), in natives and in goats, in Uganda.

" Domestic animals have not been seriously considered as reservoirs of a trypanosome pathogenic to man; but as critical inquiry becomes more possible their influence in this disease grows more apparent."

Glanders was introduced into East Africa during the war, but no case has occurred during the last eight years.

Foot-and-mouth disease occurs in a very mild form in animals, but the author cannot remember any instance of the infection in man.

SIMPSON has drawn attention to the affinity between rinderpest and smallpox in India, and the natives of Africa have noticed the similarity of the skin lesions.

LEISHMAN, commenting on the apparent diminution in virulence in East Africa of three so widely different diseases as anthrax, rabies, and foot-and-mouth disease, wondered if it could be attributable to any peculiarities of climate. RABAGLIATI mentioned how during the war camel-pox and camel-mange had been transmitted to attendants. With regard to the rabiform disease of East Africa, Henry GRAY made comparison of the pseudo-rabies or infectious bulbar paralysis, not pathogenic to man and generally ascribed to rats, which occurred in Austria, Hungary, and Roumania. In respect of the apparent immunity of man to foot-and-mouth disease in East Africa, CAMERON remarked upon the possibility of two distinct strains of virus suggested by Continental workers.

A. A.

STONES (R. Y.). **Notes on the More Prevalent Diseases in Central Kavirondo.**—*Kenya Med. Jl.* 1925. Mar. Vol. 1. No. 12. pp. 359–362.

In the Native Reserve in Central Kavirondo tuberculous adenitis is seen and tuberculosis of the lungs is common; among 2,450 in-patients it occurred in 13 (=·5 per cent.), in 8 of whom tubercle bacilli were found. In the same series there were 2 cases of carcinoma, 2 of sarcoma, and 4 at least of Hodgkin's disease. Malaria is common. No gonorrhoea was seen. The observations on syphilis are noted elsewhere.

A. G. B.

EASMON (M. C. E.). **Conditions of Medical Work in a West African Bush Station.**—*Jl. Trop. Med. & Hyg.* 1925. Mar. 16. Vol. 28. No. 6. pp. 128–131.

The author has spent 11 years in bush stations on the West Coast and gives here a description of cases seen during 8 months at the medical station of Bo in Sierra Leone, in an area exceeding 2,000 square miles traversed by a railway. The people, climate and communications are described, and details are given of the medical personnel and buildings. 2,067 new cases were attended at the dispensary and 200 others were seen in private practice. Little of special interest was recognized. Ulcers, especially tropical ulcers, were the most common affections, and were even met with at the Bo School for chief's sons, where hygienic conditions are good. Tertiary syphilis, and gonorrheal stricture were fairly common. Yaws was rare in the primary stage, and later could not be distinguished from syphilis. Bilharzia and ankylostome infections are present, "but do not seem to cause symptoms." Leprosy and phthisis are uncommon. Malaria is a common infection. Smallpox and chickenpox are frequent in Sierra Leone, but were not met with in this series. Filarial embryos were frequently encountered in the blood; clinical manifestations are rare. Dental caries and pyorrhoea were common. Creoles formed half the private practice, and two-thirds of them were females with diseases peculiar to women. No figures of frequency of disease conditions are given.

[A useful paper on the diseases seen at Freetown was published in 1914 by YOUNG (this *Bulletin*, Vol. 14, p. 232).]

A. G. B.

CASTELLANI (Aldo). **Observations on Some Diseases of Central America.**—*Proc. Roy. Soc. Med.* (Section of Trop. Dis. & Parasit.) 1925. Jan. Vol. 18. No. 3. pp. 2–11. With 4 text figs.

This is an interesting paper, though there is nothing new in it, except some preliminary remarks on a new type of mycotic stomatitis, and on a papular discoloration of the skin, common in natives of Jamaica. The subjects discussed are Guatemala onchocerciasis, myiasis, rhinoscleroma, alastrim, granuloma inguinale, dermal leishmaniasis, pineapple-estate pyosis, mossy foot, and red mite.

A. A.

NEWHAM (H. B.). **Diseases of Central America.** [Correspondence.]—*Jl. Trop. Med. & Hyg.* 1925. Mar. 2. Vol. 28. No. 5. pp. 115–116.

A brief account of diseases seen in British Honduras in 1923. Several cases of myiasis were met with, and from some of the maggots a species of Dermatobia was obtained. Cases of "bay sore" seen were probably leishmanial, but the parasite was not demonstrated. It commonly attacks the lobe of the ear and slowly invades the neighbouring tissues; recovery takes place with the loss of part of the auricle. The local injection of emetine was remedial. Pinta is prevalent. No case of onchocerciasis, as met with in Guatemala, was seen, and blood examination of 200 persons revealed no microfilariae.

A. G. B.

MULHENS [MÜHLENS] (P.). **Informe preliminar sobre estudios realizados en los territorios del Chaco y Formosa y en el Paraguay.**—*Semana Méd.* 1925. Mar. 19. Vol. 32. No. 12. (1627.) pp. 622–625.

A preliminary survey of the results of a journey through two provinces of northern Argentina and Paraguay. Amongst 200 blood-examinations in the districts of La Aurora and Basail only one was positive for malarial parasites, a case of quartan. Altogether, 378 were examined and 2 positives detected, one with crescents and one with quartan gametes. The time was not that of greatest malarial prevalence, but it is evident that in Resistencia and Formosa the endemic index of malaria is a low one, for many of these were children, and in two instances only could enlargement of the spleen be made out. In very wet years, such as 1921 and 1922, malaria was reported as "having taken on an epidemic form." No cases of trypanosome or filarial infection were encountered. 80 per cent. of the smears showed marked eosinophilia, and the cause of anaemia in Chaco, Formosa and Corrientes is hookworm rather than paludism.

To test whether "Bayer 205" was of any prophylactic value against Mal de Caderas, 24 horses were injected (in January) with 1 gm. per 100 lb. body-weight and, with 19 others used as controls, were sent to Sante Fe. They suffered severely from want of proper food on the journey, and only 25 reached Loma Negra. Of the 18 that died, 8 had had the "205." Examined in August, only one of the inoculated harboured trypanosomes. The general idea is that horses do not show symptoms till 2 years after introduction into the district. A case mentioned disproves this, since trypanosomes were discovered three weeks after arrival in the endemic zone.

The remarks on the other diseases met with are somewhat cursory. There were 20 lepers in the asylum at Corrientes, under treatment with chaulmoogra oil, but the results were not satisfactory [the method, dosage, etc., are not stated]; in the leprosarium of Asunción antileprol (Bayer) is used and, it is said, with excellent effect. Cutaneous leishmaniasis is prevalent. In Paraguay there appear to be endemic foci of the disease, which in some parts becomes a veritable scourge, *e.g.*, in San Pedro. More than 7,000 cases have received treatment with tartar emetic for this condition "in recent years."

Anopheles, adult or larvae, were very rare; their absence is ascribed partly to the prolonged drought, but more to the growth of Azolla in pools, ditches and lakes; where it was growing, larvae were never found. In Puerto Tirol there was no Azolla and larvae were in evidence; all were *A. argyrotarsis*. The author recommends the use of this plant for malarial districts.

H. Harold Scott.

POLECK. **Ueber einige bemerkenswerte in unserer ehemaligen Südenseekolonie Samoa beobachtete Erkrankungen.** [Some Noteworthy Diseases observed in the Former German Colony of Samoa.]—*Arch. f. Schiffs- u. Trop.-Hyg.* 1925. Feb. Vol. 29. No. 1 pp. 16–35.

The author practised in Samoa from 1908–1911 and records some of the conditions he met with during that time. First is described a "Six-day Fever," with shivering, backache, and some of the signs of

dengue, but without the quiescent period and the distinctive rashes, though there is leucopenia of high degree together with increase of large mononuclears and eosinophiles. He concludes that it is a special entity occurring in the dry season, conveyed by *Culex fatigans*, and that one attack does not confer immunity.

"Samoa Pox" is next discussed. This is distinct from both variola and varicella. It is accompanied by a rise of temperature to 39·7° C., lasting for 4–5 days with slight remissions. There is no further rise with pustulation; the pustules are not umbilicated, successive crops do not affect the temperature and there is no scarring. Subsequent vaccination is successful.

Thirdly, a condition bearing some clinical resemblances to enteric fever is considered. Blood culture for *B. typhosus* and *paratyphosus* was, however, invariably negative, as were also agglutination tests, and there was no leucopenia. He designates it "Pseudo-typhus," and suggests the agency of some such insect as the Kedani mite, since he found in some cases in Europeans an insect bite on the forearm associated with lymphangitis and lymphadenitis.

Another affection which was at first considered to be tuberculous in nature he believes to be streptothrix infection of the lungs. Tubercle bacilli were not found in the sputum, the loss of weight was but slight, and the general condition fairly well maintained, whereas tuberculosis in these islands runs as a rule a very rapid course. Further, guineapigs survived inoculation with the sputum.

Concluding paragraphs contain remarks upon some clinical aspects of filariasis and on skin diseases in general. The chief of these, late yaws lesions, tuberculosis, sporotrichosis and blastomycosis, receive cursory mention only. Although the inhabitants are engaged in the copra industry, copra-itch is not seen, and the author postulates a specific immunity of the native skin.

H. Harold Scott.

ROGERS (Leonard). **Pathological Evidence bearing on Disease Incidence in Calcutta.**—*Glasgow Med. Jl.* 1925. Feb. Vol. 103. New Series. Vol. 21. No. 2. pp. 95–114. [4 refs.]

Part II deals with tumours, innocent and malignant, and will, one hopes, give pause to the many who theorize on the origin of cancer.

Dr. F. L. HOFFMAN, consulting statistician to the Prudential Assurance Co., has concluded that the cancer rate is eight times as high among the 500,000,000 of civilized races as among the 1,200,000,000 of uncivilized races, including India. The author has collected data from 1,600 post-mortems at Calcutta, has microscopically examined 1,190 tumours, and has analysed a similar series of post-mortems and pathological reports at St. Mary's Hospital, London. A table shows that the post-mortem records give 45·9 per mille of malignant tumours in Calcutta and 138 in London, but the London series contains 4·8 times as many persons over 50 as does the Calcutta series, and three-quarters of the London cases were over this age. Taking this age difference into account the data show no greater incidence of cancer in England than in India, and lend no support to HOFFMAN. Table IX gives the incidence of the innocent tumours as shown by pathological examination, and the relative frequency of innocent and malignant tumours.

TABLE IX.—INCIDENCE OF THE COMMONER TUMOURS IN CALCUTTA AND LONDON.

	1,190 Calcutta Cases.		1,000 London Cases.
	No.	Rate per mille.	Rate per mille.
Innocent Tumours—			
1. Connective Tissue—			
Fibroma	75	63·0	29
Fibromyxoma	63	52·9	10
Myoma	118	99·1	55
Lipoma	10	8·4	35
Chondroma	8	6·7	3
Osteoma	5	4·2	2
Vascular	12	10·2	13
Total	291	244·5	147
2. Cysts—			
Ovarian and broad ligament ...	61	51·3	56
Breast	1	0·8	19
Thyroid	3	2·5	14
Dermoid	12	10·2	17
Hydatid	2	1·7	2
Others	31	26·0	22
Total	110	92·5	130
3. Epithelial (*a*) Papilloma—			
Of skin	24	20·2	29
Of mucous membrane... ...	16	13·4	36
Total papilloma	40	33·6	65
Epithelial (*b*) Adenoma—			
Breast	38	31·9	23
Prostate	5	4·2	27
Thyroid	0	00·0	37
Others	17	14·3	6
Total adenoma	60	50·4	93
Total epithelial	100	84·0	158
Total innocent tumours ...	501	421·0	435
Malignant tumours—			
Sarcomata	219	184·0	91
Squamous epithelial	240	201·6	208
Carcinomata	230	193·2	266
Total malignant epithelial	470	394·8	474
Total all malignant tumours	689	579·0	565

In both series the malignant outnumber the innocent, and the Calcutta malignants lead the London. An examination of the relative proportion of the two great classes of malignant tumours shows that the percentage of sarcomata was twice as great in Calcutta as in London, while for epithelial malignant tumours the Calcutta figure was five-sixths of the English, easily accounted for by the different age incidence.

Data of the innocent tumours may be obtained from table IX.

TABLE X.—INCIDENCE OF MALIGNANT TUMOURS IN CALCUTTA AND LONDON.

	1,190 Calcutta Cases.		1,000 London Cases.
	No.	Rate per mille.	Rate per mille.
1. Sarcomata—			
Round celled	131	110·0	23
Spindle celled	47	39·5	40
Polymorphic	14	11·8	9
Chondrosarcoma	5	4·2	4
Osteosarcoma	2	1·7	—
Melanotic	10	8·4	4
Lymphosarcoma	10	8·4	11
Total	219	184·0	91
2. Epithelial (*a*) Squamous—			
Skin	61	50·8	35
Lips	10	8·4	11
Cheek	12	10·2	8
Tongue and floor of mouth ...	23	19·3	60
Jaw	22	18·5	9
Throat and Larynx	4	3·6	20
Oesophagus	4	3·6	8
Penis	18	15·1	7
Vulva and vagina	6	5·0	4
Cervix uteri	80	67·2	18
Secondary in glands	—	—	28
Total	240	201·6	208
Epithelial (*b*) Glandular—			
Breast	81	68·0	152
Uterus	54	45·4	17
Ovary	28	23·5	12
Stomach	5	4·2	11
Liver primary	9	7·7	—
Gall-bladder	6	5·4	3
Large intestine	9	7·6	33
Abdominal	6	5·1	7
Kidney and suprarenal ...	2	1·7	5
Prostate and testicle	5	4·2	5
Others	25	21·0	21
Total	230	193·4	266
Total malignant epithelial	470	395·0	474
Total malignant all forms	689	579·0	565

Table X shows the incidence of malignant tumours in Calcutta and London. Of sarcomata the very malignant small round-celled sarcoma greatly preponderates in the Calcutta series. The true cancers are nearly equally divided between squamous and glandular epithelial forms. The latter are far less easily diagnosed than surface tumours, and are thus less likely to be recognized in uncivilized races. Among the squamous cancers note the prevalence of skin cases in Calcutta, though kangri-burn cancer was not met with. It is associated

with common chronic forms of skin ulceration. The frequency of epithelioma of the jaw in the Calcutta series is held to be associated with the frequency of pyorrhoea. Epithelioma of the penis, twice as common in Calcutta as in London, is attributed to the accumulation of smegma beneath a congenitally phimosed prepuce. It is noted that the London series contains 28 per mille secondary squamose epithelioma in glands against none in Calcutta, indicating that here patients do not return for recurrences; but for this the Calcutta figures would be higher. The relative infrequency of breast cancer in Calcutta is attributed to absence of tight lacing and of firm corsets; the rarity of unmarried women may also be a factor. Cancer of the uterus and ovaries shows very high rates in Calcutta, all the more remarkable when the age factor is considered, but part of this excess is due to the large number of gynaecological beds in Calcutta Medical College Hospital as compared with St. Mary's. Important contributory causes are early marriage and the early onset of the menopause, and the fact that, as HOFFMANN's statistics show, the cancer rate of the female generative organs rises greatly between 35 and 44 years, as against a later period for other regions. The relative freedom from cancer of the gastro-intestinal tract and especially the large intestine is considered to be due to the absence of irritation from hard faeces. Lastly, cancer of the liver and gall bladder call for consideration. These are much more frequent in Calcutta than in London. Tables are given of the percentages of gall-stones in centennial periods in Calcutta and London and of the frequency of cancer in gall-stone cases at the different age periods.

The paper ends with the following conclusions:—

"1. Malignant tumours, including both connective tissue and epithelial types, are about equally common in Bengal and England, with a slight excess in the tropical country, quite contrary to the statements of those who maintain that civilised races suffer eight times as much from them as uncivilised primitive peoples.

"2. Both innocent and malignant connective tissue tumours are considerably more common in Bengal than in England, while the reverse is the case with both innocent and malignant epithelial tumours; which supports the view that the innocent forms shade off into or may take on the characters of malignant ones.

"3. The slightly lower incidence in Bengal of the malignant epithelial tumours or carcinomata is fully explained by the age factor, as the higher rate in London is more than accounted for by the great excess of persons of the cancer age of over 40 or 50 years in England as compared with Bengal.

"4. Cancers of the tongue, oesophagus, stomach, large intestine, and breast show considerable excess in the London pathological examinations, while those of the skin, penis, both the cervix and body of the uterus, liver, and gall-bladder are in excess in India, nearly all of which are explainable on the known laws of long-continued irritation being the most important predisposing or exciting cause of cancer. This relationship is strikingly illustrated by the figures given, showing that gall-stones and cancer of the gall-bladder are rather more common in Bengal than in London, for it has been proved experimentally that the presence of gall-stones may induce cancer formation in this viscus.

"5. The three-fold excess of cancer of the uterus in Bengal is probably related to early menstruation, child-bearing and menopause in the Bengali race leading to earlier and more frequent development of cancer in them as compared with European females.

"6. In future, the onus will lie on those who proclaim the rarity of malignant growths in uncivilised races of proving their assertions by

extensive and accurate pathological data, such as those on which the above conclusions are based, for about 90 per cent. of the Bengal population, who furnish a large proportion of the Calcutta hospital cases, live in villages under primitive conditions, and on a diet of natural foods."

A. G. B.

VAUGHAN (Kathleen). **Tar Cancer and the Kangri.** [Correspondence.] —*Lancet.* 1925. Sept. 12. pp. 495–496.

The writer notes that in the cases of kangri cancer which she has seen in Kashmir, "the tumour and the skin surrounding it, and the fold of the groin were begrimed with black, looking like soot or tar, which resisted soap and water." She suggests that this form of cancer is produced not by heat, but by the irritant tar, and states that one of the most popular form of fuel is pine debris washed down by the Sind River from the pine-forested hills.

A. G. B.

i. SAMBON (Louis Westenra). **Researches on the Epidemiology of Cancer made in Iceland and Italy (July–October, 1924).**—*Jl. Trop. Med. & Hyg.* 1925. Feb. 2. Vol. 28. No. 3. pp. 39–71. With 27 figs., 11 maps & charts.

ii. BAYLIS (H. A.). **On *Gongylonema* collected in Italy during October, 1924, with some Observations on the Genus.**—*Ibid.* pp. 71–76. [5 refs.]

iii. BLAIR (K. G.). **Some Notes on the Insect Intermediate Hosts of *Gongylonema*.**—*Ibid.* pp. 76–81. With 7 figs.

i. This paper, which is an amplification of one published in the *Journal of Tropical Medicine and Hygiene* for June 2nd, 1924, contains further observations regarding the curious localism of cancer in particular parishes, streets, and even houses ("cancer houses"), and a reiterated statement of the researches of BORREL (on the development of sarcoma round the cysticercus of *Taenia crassicollis* in the liver of rats), and of FIBIGER (on the production of carcinoma in the stomach of rats fed upon cockroaches infested with larvae of *Gongylonema*), upon which, mainly, the author bases his explanation of the causation of that disease. Briefly, the author is one of those who postulate the existence of a cancer organism, and the organism of his conjecture is a ubiquitous intracellular microbe, which attacks tissues of lowered natural resistance, and is furthered in its attack most commonly (but not exclusively) by parasites (chiefly parasitic worms, and particularly those of the genus *Gongylonema*) that themselves are usually disseminated as larvae by the common domestic insect pests (particularly cockroaches, but also cellar-beetles, mealworms, etc.) that contaminate food. Gongylonema "is only one of several animal parasites which may be concerned in the complex aetiology of cancer"; among other possibles here mentioned are the three notorious species of Schistosoma, *Opisthorchis felineus*, Hepaticola, Capillaria, *Trichinella spiralis*, Physaloptera, *Oxyuris vermicularis*, Strongylus and Metastrongylus, *Muspicea borreli* (a new genus and species of nematodes from the mouse, here defined), and *Demodex folliculorum*. So far Gongylonema has been observed as a human parasite in only 5 (or perhaps 6) cases (4 in America, 1 (perhaps 2) in Europe), but it is an inconspicuous worm, and the author thinks that it must often have been overlooked.

The paper is a perfect pageant of erudition—varied and uncommon.

ii. Of the species of the nematode genus *Gongylonema*, which—included in their intermediate insect hosts—form the major premise of the "cancer house" argument, Dr. H. A. BAYLIS contributes a critical review, accompanied by tables of measurements of structural details of particular species. Between species there is difference of size, which BAYLIS reasonably thinks may be explained by difference of specific nutritional environment, and there is also difference in the length of the left spicule of the male, which he finds is remarkably variable in individuals from the same specific host. His final, cautiously-expressed conclusion, therefore, appears to be that all the forms hitherto found in different domestic animals (and rats), and *ipso facto* regarded as distinct species, may possibly have to be included in the one original Ruminant species, *G. scutatum.*

iii. Mr. K. G. BLAIR contributes an appendix on the insect intermediate hosts of Gongylonema, magnificently illustrated by TERZI. These include several species of dung-beetles (Scarabaeidae), and of cellar-beetles and meal-worm beetles (Tenebrionidae) and the three common species of cockroaches (Blattidae).

A. A.

JOYEUX (Ch.). **Helminthes et Cancer.**—*Paris Méd.* 1925. Feb. 21. Vol. 15. No. 8. pp. 171–177. [13 refs.]

This is an interesting review, although it does not contain anything novel. In his introduction, the author remarks that although among lower animals instances are frequent of malignant growths starting from inflammatory lesions caused by helminths, our knowledge of similar phenomena in man is deficient in fullness and precision. He then reviews the reactions and lesions of helminthiasis under various general headings. Under new growths of helminth excitation he refers to the epitheliomatous nodules of paragonomiasis and the fibromatous and cancerous growths associated with the various lesions of schistosomiasis; also to FIBIGER's researches on the development of cancer—capable of metastasis, and inoculable—in rats heavily infected with *Gongylonema neoplasticum*, the intermediate hosts of which are the common cockroaches. He remarks in his conclusion that there are many exciting causes of cancer besides helminths, and that, in civilized countries at least, helminths are among the less common of these causes. He does not doubt that helminths do intervene among the exciting causes, and he attributes even some amount of specific influence to *Cysticercus fasciolaris* and *Gongylonema neoplasticum.* But the nature of this specific influence is not understood; it may be affected by susceptibility of host (specific, varietal, racial, or individual), by predisposition of organ, and by intensity of infestation.

A. A.

LALUNG-BONNAIRE & BABLET (J.). **Premiers résultats de l'enquête sur les tumeurs en Cochinchine.**—*Bull. Soc. Path. Exot.* 1925. June 10. Vol. 18. No. 6. pp. 495–500. [6 refs.]

This inquest relates exclusively to desperate cases coming to hospital for relief. It includes the years 1922 and 1924, the laboratory of pathological anatomy of the Saigon Institute not having been at work in 1923.

During these two years, 368 cases were investigated, of which 117 were tumours, and of these tumours 84 were malignant.

Of the 84 malignant, 57 (27 in males and 30 in females) are classed as of epithelial origin, and 27 (18 males and 9 females) as of sarcomatous type. Their specific histological characters and their location are tabulated in detail. The author remarks upon the rarity of cancer of the stomach, the frequency of epithelioma of the penis and of cancer of the breast and also (but not to the same extent) of cancer of the cervico-facial region.

The benign tumours, which also are tabulated in detail, suggest nothing remarkable.

The authors conclude, as regards cancer, that the susceptibility of the natives of Cochin-China does not seem to be much different from that of the white races in temperate latitudes.

A. A.

HEYMANN. **L'Institut Curie de l'Indochine.**—*Presse Méd.* 1925. June 27. Vol. 33. No. 51. p. 867. With 1 text fig.

In a country where the incidence of malignant tumours is growing the Curie Institute is to be erected this year by private effort, its objects being the study of the tumours of Indo-China, the organization of measures to combat them, the treatment of patients by modern surgical technique, supplemented by radiotherapeutic methods. There are to be two wards, for the two sexes, of 15 beds each, provided with all radiological appliances. The Institute possesses 437 milligrammes of radium. No details of cost are given, but the façade of the proposed building is impressive.

A. G. B.

BOERMA (N. J. A. F.). **A Few Remarks on the Frequency of Cancer of the Female Genitalia at Batavia.**—*Meded. Dienst d. Volksgezondheid in Nederl.-Indië.* 1925. Pt. 2. pp. 172–174.

The author concurs in the opinion that as the general populations of tropical countries come more under treatment in properly equipped hospitals more cases of malignant tumours will come to light. His purpose in this present paper is to draw attention to the fact that cancer of the female genitalia is very frequent with the native population of Batavia. In 2¾ years up to September, 1924, he has encountered 40 cases, the majority under 40 years, of which 21 were natives of Java, 7 half-castes, 6 Chinese, 1 Japanese (and 5 European). Of these cases 38 were carcinoma (30 of uterus, 5 of ovary and peritoneum, 2 of vulva, and 1 of vagina) and 2 sarcoma (1 of uterus, 1 of ovary and peritoneum). The diagnosis was always corrected by the microscope.

A. A.

MACVICAR (Neil). **Notes on Cancer among the Native People. (From the Records of the Victoria Hospital, Lovedale).**—*S. African Med. Rec.* 1925. July 25. Vol. 23. No. 14. pp. 315–316.

Of 10,000 in-patients included in this record, 97 were cases of carcinoma, 30 of sarcoma, and 14 of obscure nature, but probably malignant.

Of the 97 cases of carcinoma, the site in 29 cases was in and about the mouth, in 22 the liver, and in 1 the gall-bladder, in 18 the abdominal alimentary canal, in 6 the skin, in 6 the breast, and in 15 the uterine cervix.

The author attributes the rather frequent cancer of the mouth to mechanical irritation, and that of the liver—which is common in comparatively young men, and occurs even in boys—to schistosome infection. The infrequency of cancer of the breast is attributed to the fact that the native women do not usually wear corsets, and this argument is supported by the concomitant fact that in 2 of the 6 recorded cases the women had worn corsets, and in another case the origin was clearly traced to the pressure of a cord across the breast suspending a garment.

The exact location of the carcinomas, with statistics of age and details of sex, are given in a table.

A. A.

GUAZON (Potenciano C.). **A Study of Cancer Cases in the Philippine General Hospital.**—*Jl. Philippine Islands Med. Assoc.* 1925. June. Vol. 5. No. 6. pp. 157–161. [8 refs.]

Of 7,545 male patients admitted into the Philippine General Hospital in 6¾ years (up to 1921), 150 (1·98 per cent.), and of 3,467 female patients in 4 years (up to 1921), 223 (6·1 per cent.) were cases of cancer. The various sites of the neoplasm are classified in great detail and the age-incidence is classified in decades [but as the former classification is in places confusingly topical, and as native computations of age are notoriously inaccurate, it will be enough to extract some significant figures].

Among the 150 cases of cancer in males 29 affected some of the mouth parts, 19 the cheek, 23 the stomach and pylorus, 18 the penis, and 17 the liver. Among the 223 cases in females, 58 were in the breast, 57 were in the uterus, and 5 in the vagina, 36 in the cheek, 18 in some of the mouth parts, 5 in the stomach and pylorus, and 2 in the liver. The high rate of cancer of the cheek is attributed to the chewing of *buyo*, one ingredient of which is lime.

Only 24·6 per cent. of the male cases and 30·5 per cent. of the female were considered suitable for operation, and of these only 15·3 per cent. of the male and 24·7 of the female are recorded as "recovered," and 22 per cent. of the male and 19·1 per cent. of the female as "improved" in the result.

A. A.

JOUSSET & GIRARD. **Un cas de méningite cérébro-spinale à bacille de Pfeiffer.**—*Bull. Soc. Path. Exot.* 1925. June 10. Vol. 18. No. 6. pp. 448–450.

Cases of cerebrospinal meningitis in Madagascar are generally due to meningococcus or to pneumococcus.

The patient in this case, a boy of 14 years, was suddenly smitten with a very severe headache, concurrent with bilious vomiting, and quickly followed by fever, delirium, slight rigidity of the neck and very frequent diarrhoea. Nothing could be found in the blood, and nothing but common intestinal worms in the stools; but the cerebrospinal fluid looked suspicious, and eventually—on the 5th day—was distinctly purulent. The specific treatment up to this had been by antimeningococcus serum. A lucky

accident in the course of the cultures from the cerebrospinal fluid revealed Pfeiffer's bacillus, and the patient was then treated, successively, with inoculations of his own haemolysed blood and of an auto-vaccine prepared from an "abscess of fixation." His condition all the while continued extremely grave and on the 12th day, when a right hemiplegia supervened, he was comatose and emaciated. On the 14th day his state began to mend; on the 24th day convalescence was established, and all that remained to be treated was the extensive "abscess of fixation." On the 49th day he was discharged, perfectly sound. Seen 3 months after discharge he was still in perfect health.

A. A.

VAN DEN BRANDEN (F.). **Sur un essai de vaccination anti-méningococcique au Congo belge.**—*Bull. Soc. Path. Exot.* 1925. Mar. 11. Vol. 18. No. 3. pp. 241–243.

In the period June 4th–August 8th, 1924, at Stanley Pool, there were 23 cases of cerebrospinal meningitis, 13 meningococcal, and 10 pneumococcal. From August 8th all the inhabitants of Leopoldville, some 25,000 souls, received a prophylactic injection prepared with local strains of the A variety. The usual dose for adults was 1 cc., or a milliard of microbes killed by carbolic. There was neither general nor local reaction. From August 24th–September 18th, 13 cases were diagnosed, 3 meningococcal and 10 pneumococcal; 2 of the former had been inoculated, had a slight attack and recovered. From October 1st–December 4th there were 6 cases, 3 of each variety. No conclusion is drawn, and it is pointed out that the number of controls was small.

A. G. B.

NICOLLE (Charles). **Contribution à la connaissance des infections inapparentes (Exemples tirés de l'étude expérimentale du typhus exanthématique.)**—*C.R. Acad. Sci.* 1924. Aug. 18. Vol. 179. No. 7. pp. 375–377.

In his work on typhus since 1911 the author has noticed that some guineapigs out of an inoculated group do not exhibit a trace of fever, but that their blood is virulent for the period during which their fellows are febrile. In the rat this phenomenon is general. To this type of acute infection he has given the name *infection inapparente.** If a rat is inoculated at the same time as a guineapig, and another guineapig is inoculated from the rat on the 2nd or 3rd day of guineapig No. 1's fever, guineapig No. 2 will witness by its rise of temperature to the infection of the rat. More recently he has observed: (1) Besides the rat (grey or white) the white mouse and a gerbille (*Meriones shawi*) contract the inapparent form of typhus; (2) typhus can be transmitted in these rodents in this form in passage (4 passages in the gerbille, 5 in the rat, up to the present); (3) the immunity conferred on the guineapig by experimental typhus of the febrile type is not absolute; of 3 guineapigs reinoculated after suffering from fever a year before none showed fever, but the brain of two was shown to be infective by inoculation to two fresh animals; (4) the immunity conferred on the

* Hans REITER, who has studied a similar phenomenon in experimental relapsing fever of mice (evidenced by the acquirement of immunity, and not by passage to clean animals), uses the suggestive term dumb infection (*stumme Infektion*). [*Deut. Med. Woch.* 1925. Aug. 21. p. 1400.]

guineapig by a previous inapparent infection is uncertain and of short duration; some months or even weeks after the inapparent attack they can contract the febrile form; (5) a first inapparent infection vaccinates, at least for some time, the rat, mouse and gerbille against an inapparent reinfection.

These observations, the author points out, show that the absence of symptoms in an inoculated animal need not prove that it is naturally refractory or has acquired immunity. There are human diseases the study of which does not make progress because no other species reacts to the inoculation of the virus; possibly there are in fact susceptible species, though they do not give evidence of the fact, and, if so, experimental study will become possible. It is logical to suppose that susceptible species which have gone through an infection and are supposed refractory are sometimes able to contract an inapparent infection and to transmit it; some observations on measles appear to point to this.

Finally, it is urged that inapparent infection differs *in toto* from latent infection. Inapparent infection is an acute disease with its incubation, development and recovery, leaving behind it a more or less lasting immunity.

A. G. B.

NICOLLE (Charles). **Contribution à l'étude des infections inapparentes. Le typhus exanthématique inapparent (Premier Mémoire).**—*Arch. Inst. Pasteur de Tunis.* 1925. April. Vol. 14. No. 2. pp. 149–212.

An "inapparent infection" is defined in this memoir as differing from an ordinary infection in being devoid of *clinical* symptoms, and as differing entirely from a latent infection in being an acute septicaemia with its incubation, its evolution, and its recovery, and leaving behind it a more or less durable immunity. It is also defined as an infection reduced to the very lowest degree of virulence—and as representing the last stage before resistance.

Inapparent typhus—the inapparent infection here considered—was first disclosed to the author and LEBAILLY in the guineapig. In guineapigs inoculated with typhus virus the usual and the only symptom is fever of varying severity and duration. Sometimes, however, the temperature of the inoculated animal remains perfectly normal; and yet its blood becomes virulent, since when inoculated into another guineapig at the proper time—the proper time being during the period when in a normal case the temperature would have risen—it produces the usual febrile symptom in that guineapig. Experimental typhus in guineapigs, then, is here revealed as a septicaemia of which the sole clinical manifestation graduates from an extreme of well-characterized fever to an extreme of zero, this last extreme being "inapparent typhus."

The causation of inapparent typhus is to be sought in insufficiency of the number of germs inoculated; its meaning is interpreted as a resting-stage in the recovery of virulence. [It may be mentioned that Alexander OGSTON, of Aberdeen, taught, as long ago as 1882, although his experiments seem to have remained unpublished, that the severity of a septicaemic infection, *e.g.*, acute suppurative osteomyelitis, was governed by the amount of the dose of germs inoculated.]

In the rat, as also in the mouse and in a common gerbille of Tunis, inapparent typhus is still more definitely integrated. In the rat experimental typhus is always inapparent ("the first example known of an infection, a septicaemia, strictly asymptomatic"), since it remains inapparent in its passage from rat to rat, and can be made manifest to the observer only by inoculation into a guineapig. [Here, then, the conception of an inapparent infection appears in its full significance as an infection reduced almost to a geometrical "point" of abstract virulence.]

The author infers from his experiments that in guineapigs and the other rodents above specified, inapparent typhus leaves behind it a certain degree of immunity to febrile typhus (guineapig) and to non-febrile or inapparent typhus (guineapig and the other rodents), although preventive properties have not yet been found in the serum of rats recovered from inapparent typhus. This acquired immunity is lost in 4 to 8 months.

He discusses the possibility of the occurrence of inapparent typhus in man and methods of scrutinizing its existence, and the possibility of the existence of inapparent forms of other infections, particularly whooping-cough and measles; and he shows how such inapparent infections would explain the preservation of viruses in Nature and would assist in elucidating the occurrence and revival of epidemics. He also suggests the possibility of some human diseases attacking domestic animals in the form of inapparent infections, and *vice versa*. Finally, from this study of inapparent typhus, he leads us beyond the present pathological canon, to surmises of an unknown world of infinitesimally benign infections—an unsuspected pathological underworld of hardly imaginable promise to the explorer.

A. A.

i. Nicolle (Charles) & Lebailly (Charles). **Recherches sur la filtrabilité du virus exanthématique. Une application instructive de la connaissance des infections inapparentes.**—*Arch. Inst. Pasteur de Tunis.* 1925. Apr. Vol. 14. No. 2. pp. 213–221. With 5 charts in text.

—— & Blanc (Georges). **Deux expériences anciennes et inédites sur la filtrabilité du virus exanthématique.**—*Ibid.* pp. 222–223.

i. Publication of the experiments detailed in this paper has been withheld for six years. The most interesting is that of guineapig 78 inoculated with filtrate from an emulsion of the suprarenal capsules of a guineapig at the third day of its fever. The animal had no rise of temperature during a period of 42 days, but two animals inoculated from it on the 12th day both had fever and subsequent immunity. Guineapig 78 suffered, therefore, from inapparent typhus. This experiment and others show that the typhus virus can traverse Chamberland L2 filter, and the occurrence of inapparent typhus suggests that filtrates may be infective more often than is suspected. The authors regard the agent of typhus as at the limits of filtrability. If a sufficient number of germs get through typhus fever is produced; a smaller number may give rise to the inapparent form. Moreover, negative results in these investigations are worthless unless the possibility of inapparent typhus has been considered; so that doubt is cast upon many of the "negatives" of the past.

A. G. B.

MILES (Lee Monroe) & FENG (Chih-Tung). **Calcium and Phosphorus Metabolism in Osteomalacia.**—*Jl. Experim. Med.* 1925. Jan. 1. Vol. 41. No. 1. pp. 137–157. [26 refs.]

Osteomalacia is prevalent throughout the northern and western parts of China, the incidence in some districts being very heavy—from 1 to 5 per cent., or, according to Chinese statements, even 10 per cent. of the adult females of the locality. The diet of the masses appears to be very poor; it consists chiefly of millet-gruel seasoned with onion, garlic, etc., turnip or radish preserved in brine, and a sort of sauerkraut made of leaves of bean plants, and those who can afford it eat also some wheat-flour cakes, "bean curd" and "celery cabbage," but no meat or milk or eggs.

Experiments conducted by the authors lead them to the conclusion that osteomalacia is a deficiency disease of the same category as rickets, the deficiency being principally in the fat-soluble vitamin content of the diet, though there may be a concurrent calcium deficiency. The experiments also give suggestive results as to treatment and prevention of the disease.

Ten women (of whom one disappeared prematurely) were kept for a week on a diet approximating to the vernacular. At the end of the term the calcium content of the serum was found usually to be less than half that generally considered to be normal, and the phosphorus content showed in some a marked deficiency, but in others came within normal limits. The 9 women thus dieted were then put under different treatments for 12 days, and the results of the treatments observed clinically and analytically. Those who received 30 cc. of cod-liver oil daily either with or without 2 gm. of calcium lactate all showed a net gain in blood calcium and felt much better. Those who received calcium salts alone showed in some cases an increase in blood calcium, and one who had calcium phosphate alone was clinically worse. Two whose treatment consisted merely of a liberal diet with milk and eggs and plenty of fresh vegetables showed, by contrast, a decrease in blood calcium and were clinically much worse. The benefit of cod-liver oil was thus demonstrated.

Finally, four selected women (three with a definite history of the onset of the disease during first pregnancy or the puerperium, and one who had never been pregnant) were kept for 7 days on something slightly better than the vernacular diet, since it included preparations of wheat flour and green soy bean, and then for 12 days (on the same diet) under different experimental treatments, their calcium and phosphorus balance being compared before, during, and after the treatment. No. 1, who received 8 cc. of cod-liver oil thrice a day, showed a calcium balance changed from negative to positive, a rise of blood calcium from 7·503 to 8·62 mgm. per 100 cc. of serum, and a slight change in phosphorus balance only. In No. 2, who received the same amount of cod-liver oil along with 1 gm. of calcium lactate daily, the calcium balance and blood calcium showed an even higher rise, the phosphorus balance was even more strongly positive, and the blood phosphorus rose from 1·24 to 2·10 mgm. per 100 cc. of serum. In No. 3, who received the same amount of cod-liver oil along with 1 gm. of calcium phosphate daily, all the above-specified changes for the better were still more strongly marked. No. 4, who received olive oil instead of cod-liver oil, along with 1 gm. of calcium lactate, alone remained unimproved clinically; her calcium balance remained negative, though the blood calcium increased almost in proportion to the others, and the blood phosphorus remained practically stationary with a small change in the balance.

A. A.

MAXWELL (J. Preston) & MILES (Lee M.). **Osteomalacia in China.**—*Proc. Roy. Soc. Med.* (Sect. of Obstetrics & Gynaecology.) 1925. June. Vol. 18. No. 8. pp. 48–65. [25 refs.]

The conclusions of this interesting paper are as follows :—

" (1) China is at present one of the world-centres for the study of osteomalacia.

" (2) In the special area involved the incidence is from 1 to 3 per cent. of child-bearing women.

" (3) While its effects are more often shown in pregnancy and the puerperium, it often begins about the time of puberty.

" (4) The disease is one due to a deficiency diet, the principal lack being in a shortage of mineral content and the activator for calcium metabolism.

" (5) Lack of sunlight and movement are contributing factors in its production.

" (6) The bones of full-term foetuses from mothers with osteomalacia do not show the signs of rickets, but of osteoporosis. There is, however, a little evidence to suggest that these infants develop rickets more easily than the normal child.

" (7) The sequelae of the disease are twofold—firstly, deformity of the pelvis, which may be counteracted by a planned Caesarean section ; secondly, interference with marital relations, which may be treated by a new operation in which portions of the pubes and ischium are resected.

" (8) The ovaries have nothing to do with the disease, and it is not necessary either to remove them or even to tie the tubes, provided that the woman is treated with cod-liver oil and calcium, and this treatment is kept up during any future pregnancy.

" (9) By improving the diet and supplying cod-liver oil it should be possible in due time to stamp out the disease. Prevention is the principal thing, and to this end a settled government and improved means of communication are essential."

With regard to etiology they conclude :—

" (1) Osteomalacia is a diet-deficiency disease and is to be placed in the same category as rickets.

" (2) The deficiency is principally in the fat-soluble vitamin or calcium-activator content of the diet, though there may be and probably is an actual or at least a proportional calcium deficiency at the same time.

" (3) The result of this deficiency diet is that a disturbance of the normal calcium metabolism is set up, and it is possible that in addition to the diet deficiency there arises a toxic process through the agency of an unbalanced protein consumption (cereal).

" (4) Intercurrent septic infections will aid in the progress of the disease, but probably only by lowering the general vitality, and there is no evidence of such infection in the majority of cases.

" (5) The evidence suggesting diseased processes in the ovaries and parathyroid is insufficient to place the blame for the disease on either organ.

" (6) Osteomalacia may be prevented by improving the diet of the population in the direction of a fuller supply of fat-soluble vitamin and salts. It may be cured by providing a sufficiency of food plus a calcium activator such as cod-liver oil and sunlight."

[It is worth noting that osteomalacia is extremely rare in the male. The authors had only one case, in a boy of 12. The etiology must take account of this.]

A. G. B.

STAPLETON (Grace). **Late Rickets and Osteomalacia in Delhi. An Analysis of Seventy-Three Cases.**—*Lancet.* 1925. May 30. pp. 1119–1123. With 3 text figs. [1 ref.]

These cases were seen at the Lady Hardinge Hospital, Delhi, during the years 1921–24.

"Late rickets was diagnosed when there was a clear history that the patient had been quite well and free from all deformity of the legs or other bones until at least eight years old, and marked enlargement of the lower ends of the radius and ulna about the epiphyseal junction was present, while on X-ray examination, where it is possible to obtain it, signs of active disease with defective ossification and cupping of the end of the diaphysis were shown . . ."

"Osteomalacia was diagnosed when there were symptoms of pain in the lumbo-sacral region of the spine and thighs, often spreading to other parts of the body, difficulty in rising and walking, with the typical cautious, waddling gait, accompanied by tenderness in the bones."

The cases were found to form a series from the typical late rickets in girls of 10–14, through a stage in rather older patients who still showed the X-ray signs of bony rickets and had the deep-seated pains of osteomalacia as well, to the well-developed forms of osteomalacia. Of the 73 cases 20 could be definitely diagnosed as late rickets, all showing enlarged wrist epiphyses; their ages were 10–20 and 16 were between 12 and 17 years. Six cases (ages 16–20) had signs of both diseases, the chief of which are noted. The cases of true osteomalacia numbered 47; these again were older, but some of the younger of them still showed signs of late rickets—prominent wrists, rib beading, bowed legs.

A study of the place of origin of the "disease" showed it to be prevalent among girls used to unrestricted village life in childhood and then brought into crowded urban quarters. [When the author writes of "the disease" one concludes that she regards the two conditions as really one.] The Hindus in this series numbered 55 and the Mohammedans 15 [the author speaks of the different incidence in these communities, but does not give us the figures of their respective attendances at the hospital]. Most of the Hindus were Banyas, and many of these were well-to-do; the Mohammedans were usually poor. Some details are given of the diet, and it is concluded that "the better vegetarian diet containing animal fat in considerable quantity" is not sufficient in itself to prevent the development of the disease. The home conditions are discussed, but it is realized that to get any precise data the buildings must be seen. A careful consideration of the relation to purdah life shows that in 63 cases, or 86 per cent. of the whole, the "disease" was closely associated with purdah life. The age of onset of symptoms is of such interest that the table is reproduced.

Age.	Late rickets.	Osteo. and int.†	Age.	Late rickets.	Osteo. and int.†	Age.	Late rickets.	Osteo. and int.†
8–10	5	—	16	—	9	25	—	2
10	—	1	17	—	4	27	—	2
11	1	1	18	—	5	29	—	1
12	1	—	19	—	6	30	—	1
13	6	2	20	—	4	44	—	1
14	1	5	21	—	3	60	—	1
E.C.R.14*	1	—	22	—	1			
15	5	3	23	—	1	Total	20	53

* E.C.R.14 = Early childhood and recrudescence at 14.
† Osteo. and int. = Osteomalacia and intermediate cases.

Details are given of the two oldest cases. Other tables show that in 16 instances the onset preceded puberty and in 2 followed the menopause; that in 30 cases it preceded the first pregnancy and in 2 was many years after the last. The 30 cases included the 20 of late rickets, leaving 10 cases of osteomalacia developing before pregnancy; moreover, 14 cases occurred during the first pregnancy, which goes against the "exhaustion" hypothesis.

Among special symptoms and signs the author notes tetany and spontaneous fractures. Tetany occurred in 30 out of 63 cases in which a record was made, and out of 29 cases in which an X-ray photograph of forearms or knees was obtained signs of spontaneous fractures were found in 14. The conclusions are as follows:—

"1. There is no sharp dividing line clinically between late rickets and osteomalacia cases, but intermediate cases are found showing characteristics of both. The difference in symptoms appears to be due to conditions of the tissues depending on the age of the patient.

"2. The determining cause in the majority of cases is the lack of sunlight and exercise associated with the purdah life in North India.

"3. The disease usually commences about puberty or in early adult life, but cases do occur occasionally in older women even past the menopause.

"4. Osteomalacia is not uncommon in young women apart from pregnancy.

"5. Tetany frequently occurs in the course of osteomalacia, and this suggests some close relationship between the metabolic disturbances that give rise to the two sets of symptoms."

A. G. B.

Sison (A. G.), Sison (A. B. M.) & de Leon (W.). **Hepatic Cirrhosis in the Philippines.**—*Jl. Philippine Islands Med. Assoc.* 1925. Feb. Vol. 5. No. 2. pp. 37–40. [3 refs.]

The authors have made a study of all cases of cirrhosis of the liver admitted to the Philippine General Hospital from 1913 to 1924 (169) and of the cases which came to autopsy in the same period (152 in 9,000 autopsies).

"Pathologically, the incidence of the different types of cirrhosis is as follows:—

Portal	71 or 0·7 per cent.
Biliary obstructive	23 or 0·25 per cent.
Biliary hypertrophic ...	2
Syphilitic	1
Unclassified	55 or 0·61 per cent.
Total	152 or 1·68 per cent."

The unclassified were mostly light cases.

Cirrhosis occurs at any age with a gradual increase from the second to the fourth decade; it is thrice as frequent in males as in females. An attempt is made to gauge the influence of alcohol, malaria and dysentery [but we are not told the frequency of such history in non-cirrhotic cases]. Cirrhosis is less common in the Philippines than in countries where alcohol is more commonly and more heavily used. The chief difference, however, between the Philippines and America or Europe is in the frequency of portal cirrhosis in young persons; the highest incidence is between 21 and 30, whereas elsewhere it falls much later, and diseases of the gall-bladder and bile ducts and primary

carcinoma of the liver affect the Filipinos early also. The authors incline to attribute this to use of spices—black pepper and capsicum—and to the frequent incidence of malaria and typhoid.

A. G. B.

LICHTENSTEIN (A.). **The Importance of the Quantitative Urobilin-Test for the Diagnosis of Cirrhosis Hepatis.**—*Meded. Dienst d. Volksgezondheid in Nederl.-Indië.* 1925. Pt. 2. pp. 136–147. [13 refs.]

The author criticizes various methods of determining the amount of urobilin in urine and faeces and states his preference for one described by TERWEN. He gives abstracts of four cases of hepatic cirrhosis, with details of this subject. In only one of them was the total amount of urobilin greatly excessive, but what was remarkable was the large amount excreted in the urine as compared with the faeces. In normal urines the largest daily amount detected by the author has been 1 mgm.; in these four cases the daily average was, individually, 12, 38, 35, and 4·5 mgm. The author shows that in 2 cases of haemolytic jaundice and 8 cases of pernicious anaemia investigated by him the amount of urobilin excreted in the urine, though considerably in excess of normal, did not attain these high figures.

A. A.

SARRAMON & PONS (R.). **Tumeur mycosique de la face interne de la joue chez un Annamite.**—*Bull. Soc. Méd.-Chirurg. Indochine.* 1924. Apr. Vol. 2. No. 4. pp. 96–97.

The patient was aged 84. The tumour, of the size of a five-franc piece, resembled a great condyloma. It was ulcerated, of woody hardness and creaked under the knife. It was constituted of stratified epithelium with a very close woof of mycelium. In cultivation it was found to be a Monilia resembling *M. parakrusei* but not, like it, clotting milk. Under pot. iod. treatment the tumour rapidly diminished.

A. G. B.

CASTRILLON (Basolio A.) & BORSANI (Ernesto P.). **Micosis aspergilar.**—*Semana Méd.* 1925. Apr. 23. Vol. 32. No. 17. pp. 924–926.

An Argentine woman, 50 years of age, came under the authors' care with signs suggestive of pulmonary tuberculosis. There was, however, no fever and no acid-fast bacilli could be found. Expectoration was profuse, 150–500 cc. in 24 hours, dark yellow in colour. X-rays showed no abscess or affection of the liver. Examination of the sputum revealed hyphae and cultivation yielded a growth of *Aspergillus fumigatus*. Rapid improvement ensued on administration of potassium iodide, 2, 3, and 4 gm. on successive days, and the last dose maintained for a week. The patient left hospital in a fortnight.

H. Harold Scott.

ANDERSON (Ch.). **Sur un cas d'otomycose à** *Sterigmatocystis nigra.*—*Arch. Inst. Pasteur de Tunis.* 1925. Jan. Vol. 14. No. 1. pp. 93–96. With 1 plate. [2 refs.]

Cultures of *Sterigmatocystis nigra* from a lady's ear, non-pathogenic at first to rabbits, became so after numerous passages on media more and more alkaline. The mould was recovered from the rabbit's lesions. The author has repeated the experiment, but without success.

A. G. B.

DELANOË (L.). **Sur un cas de maladie d'aïnhum ayant intéressé la jambe droite.**—*Bull. Soc. Path. Exot.* 1925. June 10. Vol. 18. No. 6. pp. 470–474. With 1 text fig. [1 ref.]

This paper contains a long account of suppurating sores and fistulae of both elbows and of the right knee and foot, and a figure of the last, showing a swollen knee, a deformed and emaciated shank and a greatly swollen foot of most insalubrious aspect. GOUZIEN criticizes it as an interesting case, but not ainhum.

A. A.

YOUNG (W. A.). **An Aneurism and a Gumma in the same Heart.**—*Trans. Roy. Soc. Trop. Med. & Hyg.* 1925. Mar. 19 & May 21. Vol. 19. Nos. 1 & 2. pp. 87–88. With 2 figs. on 1 plate. [1 ref.]

In this case, from Accra, an African youth of 24, still at school and regarded as healthy though not very strong, suddenly expired at night. His heart, which was found to be much enlarged and to weigh 20½ oz., had the left ventricular wall occupied by an aneurism and a gumma. The liver also was studded with small gummata.

The author refers to three cases of endarteritis reported from Accra by MACFIE and INGRAM [this *Bulletin*, Vol. 17, p. 422] where the patients were boys, in one of whom, though only 6 years old, gumma-like tissue suggestive of a syphilitic causation was found.

As instances of Africa precocity in venereal encounters the author cites the case of a boy of 10 years treated by PATERSON at the Gold Coast Hospital for Hunterian chancre, and a case of his own in Freetown of a boy of 10 years suffering from gonorrhoea and hard chancre. In Dr. PATERSON'S case the patient spontaneously stated that the accident was the result of adulterous iniquity.

A. A.

JAMIN (H.). **Stomatite d'automne.**—*Arch. Inst. Pasteur de Tunis.* 1925. Jan. Vol. 14. No. 1. pp. 126–129.

The author has seen this "autumn stomatitis" for some years in Tunis. The patients complain of a sensation of heat and tingling in the buccal mucosa. The chief lesion is on the tongue and consists of a bright red area denuded of papillae with well-defined somewhat pinked edges; in light cases it travels slowly from the centre to the edges, where all becomes normal. Similar lesions are usually seen on the gums, lips, cheeks and soft palate. The cause is obscure. The treatment consists of a wash of borax and balsam of Peru.

A. G. B.

NOGUE (M.). **Epidémie de glossite observée au Sénégal.**—*Bull. Soc. Path. Exot.* 1925. June 10. Vol. 18. No. 6. pp. 501–507. With 4 figs. on 1 plate. [1 ref.]

The author describes an epidemic of glossitis among natives, chiefly children, at Dakar, in December, and refers to JAMIN'S paper (see above). There is a characteristic denudation of the tongue generally affecting the anterior third which may be associated with lesions on the inner surfaces of the lips and cheeks and more frequently with excoriation at the commissures of the lips, giving a macerated

appearance. There was no enlargement of lymphatic glands and the general condition was good. In some outbreaks, however, gastro-intestinal troubles were present, and it was noted sometimes that both cleared up at the same time with improved feeding. The only symptom complained of was a burning sensation on eating. Some of Nogue's associates have incriminated peppermint and salt fish as causes, but he notes the seasonal incidence and suggests that the condition is the result of some infection.

Chlorate of potash and boroglyceride have been found useful. Nogue states that with the exception of JAMIN's paper he has seen no reference to a similar condition.

[The glossitis associated with the lesions at the commissures of the lips reminds the reviewer exactly of the condition he observed among natives of Nyasaland, and which he showed to be symptoms of pellagra. The sodden condition of the mucocutaneous surfaces at the angles of the mouth (and at the angles of the palpebral fissures and the free margin of the prepuce) were then for the first time described in the symptomatology of pellagra and it was pointed out that these might precede by a year or more the rash and other signs of that disease (*Trans. Soc. Trop. Med. & Hyg.*, Vol. 5, No. 3, and Vol. 7, No. 1). Nogue does not even mention pellagra in discussing diagnosis, but it would be interesting to have a careful watch kept for other manifestations of that disease which may be missed in a black-skinned race by those only familiar with descriptions of the disease in Europeans.]

H. S. Stannus.

MATHIS (C.) & GUILLET. **Sur la nature de l'épidémie de glossites observés au Sénégal.**—*Bull. Soc. Path. Exot.* 1925. July 8. Vol. 18. No. 7. pp. 586–590. With 6 text figs.

During the months February–April, 1925, the authors had the opportunity of observing among school children at Dakar numerous cases of the epidemic glossitis described by NOGUE (see above). The chief feature of the affection according to NOGUE was a characteristic denudation of the tongue, commonly limited to the anterior third with associated lesions on the inner surfaces of the lips and cheeks and excoriations at the angles of the mouth, accompanied by gastro-intestinal disturbance, whereas the present writers describe the lesions on the tongue as a creamy coating affecting the posterior two-thirds of its surface, the anterior third and sometimes the middle being the seat of pearlylike patches, with or without fissuring and hypertrophied papillae, and make no mention of other symptoms. Fixing their attention on the furring of the tongue which recalled somewhat thrush, they made a number of attempts to isolate a causative organism. Examinations of smears were negative for mycotic elements, but showed constantly the presence of what is believed to be a bacillus having a length up to 25μ. Attempts at culture failed, and subcutaneous inoculation into mice and guineapigs produced no local or general reactions. In 8 out of 10 children examined the Wassermann reaction was negative, the two positive results being accounted for by hereditary syphilis. [It would appear possible, judging by NOGUE's account, that the lesions upon which the authors lay stress, together with the organism described by them, are but secondary features.]

H. S. Stannus.

ROGERS (Leonard). **Relationship between Pneumonia Incidence and Climate in India.**—*Lancet.* 1925. June 6. pp. 1173–1177. With 5 text figs. [6 refs.]

It has long been known that lobar pneumonia is particularly prevalent in the arid north-western parts of India, and this fact is confirmed by the jail statistics for 15 years (1896–1910), upon which this paper is based. (The jails are in charge of I.M.S. officers, and provide trustworthy data.)

In this Indian jail-population the total annual rate of pneumonia-incidence being 13·3 per mille, that for the dry north-western tracts ranged from 50 (Lower Indus valley) to 22 (W. sub-Himalayan region), while that for tracts of high humidity ranged from 4·2 (Burma coast) to 13·4 (Bengal and Orissa). This vastly higher pneumonia-incidence in the arid north-western parts, however, was restricted to the cold season (November-February); in the hot season and rains the percentages of cases were there the lowest in India. The cause of the excessive prevalence of the disease in the north-western parts must, therefore, be sought in the climate-conditions of the cold season.

As compared with other parts of India the cold-season climate of the north-west shows (*a*) the lowest atmospheric humidity, (*b*) the lowest minimum temperatures, and (*c*) the extremest daily ranges of temperature; there is also (as over most of northern India) a prevalence of northerly winds. These are the conditions that conduce to "chill," particularly among a scantily-clad people—great diurnal variations of temperature, with a low minimum.

It is known that the types of pneumococcus prevalent in India are a normal element of the pharyngeal flora, and also that the onset of pneumonia is commonly attributed to a chill.

A. A.

PERDOMO HURTADO (B.). **Epidemia de escarlatina en Caracas.**—*Bol. Hospitales.* Caracas. 1925. Feb. 15. 2a Epoca. No. 3. pp. 173–176.

Scarlatina has been present in Caracas for many years, some 30 at least. During this time there have been, according to the author's investigations, about 450 cases, nearly all in children, mostly between the ages of 6 and 12 years. The vast majority were mild, though some were severe with renal symptoms, and a few have terminated fatally. Brief remarks are made on the question of diagnosis and possibly some of the cases may not have been true scarlatina, since among them are included patients who suffered from sore throat and rise of temperature without any eruption. [See also RISQUEZ, p. 946.]

H. Harold Scott.

CHŌSA (N.). **Experimental Study on the Goitre found in Certain Districts of Formosa.**—*Taiwan Igakkai Zasshi* (*Jl. Med. Assoc. of Formosa*). 1925. Apr. No. 241. English summary pp. 2–3. [In Japanese.]

In a district of Shinchiku Province, Formosa, the percentage of goitre is 44·3. Experiments were made with the drinking water (from springs); 77 rats were used, divided into four groups. The

first and second groups received the unboiled water, the first on the spot, the second at Taihoku where there is no goitre. The third group received the same water boiled, the fourth Taihoku water. Rats of the first two groups became goitrous, those of the second two remained free. The first changes were noticed after three months. Some of the follicles showed partial atrophy with cloudy swelling of the epithelial cells; others remained healthy, but became dilated and filled with colloidal matter.

A. G. B.

ANDERSON (L. A. P.), HOWARD (Albert) & SIMONSEN (J. L.). **Studies on Lathyrism. I.** —*Indian Jl. Med. Res.* 1925. Apr. Vol. 12. No. 4. pp. 613–643. With 1 text fig., 13 figs. on 2 plates. [33 refs.]

The authors here show, after three years' work, that, contrary to the conclusions of ACTON (this *Bulletin*, Vol. 20, pp. 46 & 645), the poisonous seed which produces lathyrism is not *Lathyrus sativus* or *khesari*, but that of a leguminous weed which grows with it, *Vicia sativa*, var. *angustifolia*, known to the natives as *akta*. The varying conclusions of previous observers are explained by the fact that the crop is rarely grown in pure culture, and the sample of seed obtained is mixed; the authors obtained a pure culture and were able to experiment with the seeds of five leguminous plants. They write :—

"The results of the chemical investigation and of the feeding trials with *khesari* are in complete agreement. A number of samples of seed of different ages, from localities where lathyrism does and does not occur and drawn from produce stored in a variety of ways, were tested for bases. In no case was even a trace of alkaloid found. The results were entirely negative, and from the chemical standpoint the seeds of *khesari* appeared to be harmless. These results received striking confirmation when pure *khesari* was fed to ducks and monkeys. No sign of any deleterious effect resulted from the use of this grain as food for these animals. The grain has been given in very large proportion of the whole dietary—in the case of ducks from 50 to 100 per cent. and in monkeys from 70 to 100 per cent.—the balance where necessary being made up with normal foodstuffs. The animals all appeared to thrive on these diets over long periods, and their condition has shown no appreciable difference from that of the control animals . . . So far as our experiments go, it would appear that pure *khesari* is a harmless and satisfactory food for both ducks and monkeys.

"The investigation of the weeds met with in *khesari* have yielded results very different from those obtained with the main crop. When the seeds of one of these weeds—a vetch known as *akta* (*Vicia sativa* L. var. *angustifolia*)—were examined chemically, bases possessing alkaloidal properties were at once detected, isolated and their chemical constitution determined. One of these—divicine, which exists in the seeds combined with a sugar as the glucoside vicine—was found, by inoculation experiments with guineapigs, to possess distinct toxic properties. When the seeds of *akta* were fed to ducks and monkeys, definite symptoms were observed after a comparatively short time. So far as ducks are concerned, we have no doubt that the symptoms observed were due to feeding with *akta*. The certainty with which a fatal disease could be produced, and the fact that this disease only occurred when *akta* was one of the constituents of the diet, afford very strong evidence in favour of this. We have shown that actual starvation could not have been the cause of death, and avitaminosis could not, in our opinion, be held responsible. There remains, therefore, only one other possibility, namely that *akta* is poisonous to these animals. So far as monkeys are concerned, the evidence is also

very strongly in favour of this hypothesis . . . The majority of the animals have shown a definite syndrome which is characteristic and was identical in every case . . . In seven out of the nine animals fed on *akta* these definite pathological signs have been observed. *Akta* was the only test grain universally present in the diet of all these seven, while *khesari*, though also present in two of the diets, was absent from the other five.

* * * * * * *

"The prevention of the disease, if it should prove to be due to contaminating weeds, appears to be a more simple matter. The growth of *khesari* in lines about a foot apart, combined with very careful weeding in the early stages, would result in a pure culture of this crop and grain free from *akta* and other weeds. All our results indicate very clearly that no harmful result will follow the consumption of pure *khesari*."

They are not yet in a position to state, in the absence of pathological proof, that *akta* is the cause of lathyrism in man.

A. G. B.

MELENEY (H. E.). **Schistosomiase et kala-azar en Chine.**—*Bull. Soc. Path. Exot.* 1925. May 13. Vol. 18. No. 5. pp. 364–368. [10 refs.]

Schistosomiasis in China is found chiefly in the Yangste valley, where rice is cultivated and lakes and canals are numerous, its presence depending on that of the intermediary mollusc host. It is unknown in the north. Kala azar, on the other hand, is found only in the dry regions to the north, where abundant rain never falls except in July and August. The endemic areas do not trench on one another. The diseases have three features in common.—In both there is moderate enlargement of the liver and great distention of the spleen. In both the blood globulins are increased, as evidenced by the distilled water precipitation test or the formol-gel test. Both are more favourably influenced by antimony than by any other drug.

FAUST and Meleney have shown that the young schistosoma migrates in the mammalian host entirely by the blood channels; after the worm become localized in the lungs innumerable little haemorrhagic foci form in all the organs but the liver; they are found equally in the lesions of the kidneys and in those of the gastric mucosa; the young parasites in the liver are always found in the branches of the portal vein. While a considerable number of worms is found in the pleural cavity, there are very few in the peritoneal. In dogs killed when the egg-laying period has begun the eggs are found chiefly in the mucosa close to the lumen of the intestine; there is no haemorrhage, which shows they are inside the capillaries. Often 200 are grouped together, some completely developed, others immature; evidently most of the eggs are expelled from the uterus at once.

The discovery by SMYLY and YOUNG of the hamster as a suitable experimental animal for kala azar is described. Parasites are found in the spleen and liver a few days after inoculation. The histological lesions have been followed in these animals till 15 months after infection. The macrophages or endothelial leucocytes are the only cells affected. These increase in number, replacing the normal tissue of the affected organs, and at the end the multiplied parasites are found engulfed in them. In the liver it is the Kupfer cells which proliferate in this manner.

A. G. B.

TAI (J. T.). **A Glimpse into the Question of Splenomegaly.**—*Nat. Med. Jl. China.* 1925. Apr. Vol. 11. No. 2. pp. 75–84.

In Yangchow Baptist Hospital (Kiangsu) the author has, in the last four years, studied 46 male cases of splenomegaly. The average age was 30 years, the average duration of splenic enlargement 8, and of ascites 1 year. The most prominent symptoms were anaemia, 67 per cent., and ascites, 56 per cent. ; in 12 of the cases the spleen reached the umbilicus. Liver enlargement was frequent. In 52 per cent. there was a history of chills and fever and in 24 per cent. *Schistosoma japonicum* ova were found ; around Yangchow the usual percentage of these ova in faeces is 7. Kala azar is rare in this part of China, and in 3 splenic punctures Leishmania were not detected. The average of a few blood counts showed leucocytes 5,470, r.b.c. 3,610,000 and haemoglobin 62 per cent. The spleen was removed in one case ; palliative treatment was usually employed. Four patients died in hospital. The author thinks that splenectomy should be performed more often in early cases. He calls for intensive study of Chinese splenomegaly. [It does not appear that the removed spleen was examined histologically.]

A. G. B.

REMLINGER (P.). **Sur la fréquence de l'asthme à Tanger.**—*Bull. Soc. Path. Exot.* 1925. May 13. Vol. 18. No. 5. pp. 421–430. [5 refs.]

A long paper from which little can be learned but that asthma is common at Tangiers, much more so than in other Moroccan towns, and is becoming commoner. Figures are given of 60 dispensary patients, and from these and other data the author finds that a neuro-arthritic diathesis is frequent (diabetes, obesity, eczema, migraine, colic, etc.). The most usual age is between 20 and 50, and men are affected more often than women. It occurs at all times of year, but more especially at the beginning of spring and end of summer, which is in favour of pollen causation. Most of the patients are Jews in easy circumstances. Though not dangerous, asthma in Tangiers is recalcitrant to treatment and relapses readily. Among causes other than the neuro-arthritic diathesis the author names irritability of the nervous system, the result of the trying sea climate, the violence of the winds, and perhaps the high humidity and dust, as well as syphilis and tuberculosis, but he admits that there are unknown factors.

A. G. B.

ROBERT (Vital). **Cas déclarés de tétanos guéris par la sérothérapie.**—*Bull. Soc. Path. Exot.* 1925. May 13. Vol. 18. No. 5. pp. 435–436.

Two native soldiers with well-developed tetanus were treated with serum, in one case 220 cc. in 5 days (130 intravenously, 10 intraspinally), in the other 120 cc. in 3 days (100 intravenously, 20 intraspinally) : a chigger ulcer of the big toe was the point of infection in one case. Both recovered. The author thinks that not less than 60 cc. must be given daily, with local treatment and chloral. AFFRE stated that at the Maternity Clinic at Dakar he had treated 30 cases of tetanus of the new-born without a single recovery, though some babies received as much as 120 cc. of serum. The injections were usually given under the skin or into the muscles.

A. G. B.

NOGUE (M.). **Un cas de noma très amélioré par le stovarsol.**—*Bull. Soc. Path. Exot.* 1925. May 13. Vol. 18. No. 5. pp. 433–434. With 1 text fig.

Two cases seen at Dakar are in fact described.

(1) Phagedenic ulcer in a child of a month's duration, 4 cm. in diameter and exposing the tendon of Achilles; dressed daily for 20 days with stovarsol powder; rapid improvement. (2) A case of noma in a child of two years. A gangrenous ulcer of the cheek of 5 cm. diameter; necrosed maxilla seen at the base. The dead tissues were scraped or cut away, stovarsol powder in a small quantity of water was applied night and morning, and 150 gm. physiological serum injected daily under the skin. Again improvement was rapid.*

Comparable results were obtained with treparsol and novarsenobenzol. Their use can be alternated with that of Vincent's powder and salicylic acid solution. Stovarsol and treparsol should be supplied by the trade in powder as well as in tablets.

A. G. B.

LE CHUITON (F.). **Essai de vaccinothérapie dans les adénites tropicales.**—*Arch. Méd. et Pharm. Nav.* 1925. Apr.–May–June. Vol. 115. No. 2. pp. 154–163. [1 ref.]

Six cases of "tropical adenitis" were treated at Saigon by vaccines, which, however, in the author's opinion, do not have a specific action, but rather play the part of antigens to the microbes which are secondarily associated with the true agents. Two of the cases are briefly abstracted here:—

A sailor entered hospital on September 25th with the glands of the right groin swollen to the size of a hen's egg, hard but softened in parts; remittent fever. October 2nd, incision gave exit to sero-grumous pus in which Gram-positive cocci were seen; a white staphylococcus was grown. On October 17th a stock antistaphylococcus vaccine was injected and again the next and succeeding days. On November 2nd the patient was discharged cured. Another was admitted on January 9th with similar signs. On January 13th the swelling was explored by syringe and Friedlander's pneumobacillus was grown. Antistaphylococcus vaccine was then injected and on January 23rd he rejoined his ship. He returned on February 3rd with the swelling as at first, an autovaccine was made, and cure and discharge followed on February 25th.

A. G. B.

VIRGILLO (Francesco). **Nota sulla riproduzione sperimentale del linfogranuloma inguinale subacuto.**—*Ann. di Med. Nav. e Colon.* 1925. May–June. Year 31. Vol. 1. No. 5–6. pp. 268–271. With 2 figs. on 1 plate. [3 refs.]

The author withdrew some purulent fluid from the interior of an inguinal gland of a patient with subacute lymphogranuloma and injected it subcutaneously in the inguinal region of two guineapigs. One of these died a month later with a nodule the size of a millet seed, and on excising this and examining it microscopically he found it to be a swollen gland with a central focus of coagulation-necrosis and showing the intracellular bodies described by GAMNIA and FAVRE.

H. Harold Scott.

* The author, in a later note (*Bull. Soc. Path. Exot.*, June, p. 501) informs us that after a three-day interval in which the child was not brought for treatment the disease had again progressed and the issue was fatal.

RIVAS MAZA (F. de P.). **Observaciones de pseudo-paludismo y pseudo-tuberculosis.**—*Rev. Med. y Cirug.* Caracas. 1925. Feb. 28. Year 8. Month 4. No. 83. pp. 69–79.

Four cases are recorded with obstinate daily rise of temperature and loss of weight, symptoms diagnosed as due to malaria and, later, tuberculosis. Three proved to be syphilitic and cleared up on specific treatment, the fourth, who had troublesome diarrhoea, was treated by injections prepared from Monilia in the stools and recovered, the condition being regarded as sprue.

H. Harold Scott.

SPENCER (H. A.). **Lightning Stroke and Electric Storms in the Tropics.** —*Jl. Trop. Med. & Hyg.* 1925. Apr. 1. Vol. 28. No. 7. pp. 138–140.

The author describes the evolution of a thunderstorm in hot weather; the electrification of the vapour in the higher regions of the atmosphere and the formation of electrified rain-clouds. In bad storms the discharge of lightning from over-charged clouds often precedes the discharge of rain, and then the dangerous moments for the exposed traveller are those just before the rain reaches earth. Sometimes the warm current left by a span of sweating oxen may conduct the electricity, with disastrous results. In the author's experience the warm current of a speeding motor-car may act as a conductor, but in this case the metal of the car is likely to spread the electricity and pass it to the earth without affecting the occupants or even attracting their attention. The author gives instances, respectively, of the fatal consequences of remaining upright in a thunderstorm (instead of lying flat); of the relative security given by streaming wet *clothing* (as of a man defying the rain), compared with the risk implied in a naturally moist *skin* and dry clothing (as of a man taking refuge under a tree); and of the efficacy of artificial respiration in resuscitating men struck insensible by lightning. Artificial respiration, brisk friction to stimulate the heart, and calomel constitute the author's treatment.

A. A.

PFANNENSTILL (S. A.). **A Method of treating Infected Ulcers.**—*Brit. Med. Jl.* 1925. Apr. 18. pp. 732–733. [26 refs.]

Since antiseptics applied direct to an infected ulcer can exercise but a superficial bactericidal influence the author advocated, in 1910, a mode of treatment that ensures the impregnation of such an ulcer with an antiseptic locally liberated from the circulation.

The select antiseptic is iodine, given orâ as iodide of sodium (15 gr. or more 2 or 3 times a day). The iodine in its most potent nascent state is locally liberated from the iodide in circulation by hydrogen peroxide, with which the ulcerated surface is kept wet. The liberation of iodine is helped by slightly acidifying the peroxide—acetic acid, or—for ulcers in the mouth—boric.

The necessary irrigation with peroxide may be maintained, in superficial ulceration, by carefully packing the ulcer with absorbent wool, or in deeply situated ulceration by spraying.

This treatment, which the author recommends for the various specific ulcerations of tropical latitudes, can be applied wherever an ulcerated surface can be kept continuously—or, at least, very

frequently—wet with H_2O_2. The author treats laryngeal ulcers this way, though he allows that deeply burrowing tuberculous ulceration of the larynx cannot be permanently cured by his method.

A. A.

DELANOË (E.). **Sur un cas de maladie de Dercum généralisé à tout le corps sauf face, mains et pieds chez une indigène.**—*Bull. Soc. Path. Exot.* 1925. Mar. 11. Vol. 18. No. 3. pp. 246–249. With 1 text fig. [5 refs.]

Account of a Moorish lady of quality, age about 40 to 45, who, soon after the death of her Moorish lord (to whom she had borne 8 children) which occurred when she was about 25, had somehow contracted syphilis at a Turkish bath. The attack was extremely severe; among other things there had been a generalized skin eruption, which had been followed by steadily progressive hypertrophy of the entire integument, excepting that of the face and hands and feet.

The trouble for which she lately sought relief was pain—headache and constant dull pain in all parts of the body, with intolerable fiery torments of exacerbation; these were particularly acute at night and in the joints, and any joint might suffer.

When seen by the author she had become so bloated, especially as to the pendent belly and corresponding posterior regions, that her gait was a swaying waddle with the arms used as balancers. The hypertrophied skin lay in thick, deep, fatty folds, producing on the limbs a sort of "segmented" appearance; it was painful on pressure, but there was no inflammation; in certain parts there was pigmentation, and desquamation in great strips. There was no psychic or nervous trouble and no loss of a naturally lively intelligence; but the general debility was extreme.

After receiving 2·25 gm. of novarsenobenzol in a course of 5 intravenous injections, the first of which gave relief, the patient was sent home with supplies of iodide of mercury. When seen again about 4 months afterwards she expressed herself ravished with her cure. Her pains were relieved, and even the bloated skin was softened.

A. A.

JEWELL (N. P.). **Three Cases of Castellani's Endemic Funiculitis in Kenya Colony.**—*Jl. Trop. Med. & Hyg.* 1925. Apr. 1. Vol. 28. No. 7. pp. 137–138. [1 ref.]

The author believes these cases to be the first reported from East Africa. He has no doubt that the disease is *sui generis*; the appearance of the spermatic cord on operation and the way pus wells up when the cord is incised are characteristic. In one case a diplostreptococcus was found; in none was there sign of bilharzia or filaria. (He admits a similar disease, or a mild type of this, of filarial origin, which recovers without operation and without destruction of the cord.) The condition suggests strangulated hernia. The cases are described. One elderly patient died, though free incision was made. In another case the inflamed spermatic cord was $1\frac{1}{2}$ inches in diameter. The third recovered without the use of the knife.

A. G. B.

CIGNOZZI (Oreste). **I sali arsenicali di bismuto nella cura della sifilide della malaria e delle tuberculosi chirurgiche.**—*Riforma Med.* 1925. May 11. Vol. 41. No. 19. pp. 437–438.

The author has found that in syphilis colloidal bismuth is less active than salts of the metal; that the soluble bismuth salts are inferior

to the insoluble; that among the insoluble the most efficacious are the arsenical compounds and the best of all the sodium methylarseniocitrate of bismuth ("metilarsinocitrobismutato sodico"). He injects intramuscularly 2 cc. containing 0·1 gm. of the salt, equivalent to 0·034 gm. metallic bismuth, daily for 10–12 days, then on alternate days another series of 8–10 injections, and a third course of ten, the injection being made every 3–4 days, reaching a total of 2·4–3 gm. in 50–70 days.

In malaria quinine is found to be best for acute attacks, but for chronic and resistant cases the salt above mentioned has given very good results.

In surgical tuberculosis, again, surprising results have been obtained. It is suggested that the drug acts by its special activity relative to the leucocytes and by its "local fibroblastic action." [It is not stated whether the dosage and procedure for the last two conditions are the same as those detailed for syphilis.]

H. Harold Scott.

SAZERAC (R.) & VAURS (R.). **Du rôle de la phagocytose dans l'action du bismuth sur les trypanosomes et les spirochètes.**—*Ann. Inst. Pasteur.* 1925. Jan. Vol. 39. No. 1. pp. 86–100. With 4 figs. [17 refs.]

The authors have already explained (this *Bulletin*, Vol. 21, p. 924) how an injection of a suspension of insoluble bismuth into the peritoneal cavity of rabbit or guineapig is followed by a copious local determination of leucocytes which engulf, fix, and carry off the bismuth. In the present paper they review the history of the subject of phagocytosis and fixation of soluble and insoluble poisons by the leucocytes of immune and immunized animals, from the experimental work of METCHNIKOFF, CALMETTE, and BESREDKA onwards. They also record further experiments of their own on the therapeutic application of this sort of phagocytosis. Rabbits well infected with *Spirochaeta cuniculi* were given intraperitoneal injections of bismuth (0·2 to 0·3 gm. per kgm.); the spirochaetes disappeared in 48 hours and the lesions were healed in 5 or 6 days, just the same as in the case of intramuscular injections. In trypanosome infection the same effects were demonstrated, though cure was not permanent. Rats infected with a strain of *T. brucei* known to be fatal to those animals in 4 or 5 days received the same proportionate dose of bismuth by peritoneal injection on the 3rd day after inoculation: the trypanosomes disappeared from the peripheral circulation in 24 to 48 hours. A relapse occurred 4 to 10 days afterwards, but the trypanosomes disappeared again after another peritoneal injection, and the rats could be thus kept alive from 19 to 29 days.

A. A.

SMITH (Henry). **Stone in the Bladder.**—*Indian Med. Gaz.* 1925. Jan. Vol. 60. No. 1. pp. 18–19.

One may take the liberty of expressing some of this ripe experience aphoristically.

1. A very small stone or a residual fragment that has escaped detection by a sound will often fall into the open jaws of a small lithotrite.

2. An irrigator is better than an imperfect evacuator; it can be used safely with four feet of pressure.

3. "Why median incision, when there is any amount of room laterally for either a Keith's operation or a lateral lithotomy?"

4. Facts relating to large stones removed in leading hospitals in India show the mortality after the suprapubic operation to have been over 40 per cent., against 10 per cent. after perineal lithotomy (the general mortality, for litholapaxy, being, in those hospitals, 2 per cent.). Safer than either for abnormally large stones is litholapaxy through a lateral lithotomy incision. "Why is the suprapubic operation so fatal in India? Simply because we have not got sufficiently good nursing. For a day or two the patient appears to be all right. Then septic diarrhoea sets in, and the end is at hand." In Indian practice it is much better to sew up the suprapubic bladder-wound carefully and drain the bladder "through the breech" for a few days, than to leave the bladder to drain through a suprapubic wound and thus to risk extravasation of urine into the surrounding areolar tissue.

5. Language is a poor medium for teaching the art of using the lithotrite—*verb. sat sap.*

A. A.

ROSSER (Curtice). **Rectal Pathology in the Negro. Incidence and Peculiarities.**—*Jl. Amer. Med. Assoc.* 1925. Jan. 10. Vol. 84. No. 2. pp. 93–96. With 3 figs. [20 refs.]

The population of Baylor Hospital in Texas includes a large negro element, and in this interesting paper the rectal cases of the hospital for a term of 5 years are analysed and compared in their racial (and possibly phyletic) significance. The hospital population for the specified term was 42,002, of which 10 per cent. was negro, and the total number of rectal cases was 1,138, of which 9·14 per cent. were negroes; the relative (undifferentiated) rectal infirmity was thus not appreciably different from that of whites. The particulars of this rectal disease, however, give some evidence of a predisposition of the negro to form fibrous tissue in excess, or of what the author terms a "fibroplastic diathesis."

In this series of cases pruritus and spastic sphincter did not occur among the negroes, only one instance of cancer was observed, and the incidence of prolapsus (9 per cent.) was the same as in whites. On the other hand, there was among negroes a high percentage of unspecified inflammation, ulcer, abscess, fistula, and rectal stricture. Moreover, treatment of rectal stricture by divulsion or simple dilation only led to increase of fibrosis. Haemorrhoids, though less common in negroes than in whites, were mostly of the hard non-vascular kind in which fibrosis was conclusively demonstrated.

In the ensuing discussion Dr. Rudolph MATAS, who rather discountenanced phyletic generalizations, referred to his own studies of comparative pathology based on 4,280 ano-rectal cases (2,191 whites and 2,089 negroes) at the Charity Hospital, New Orleans, and published 28 years ago. His observations, though they accord in the main with those of Rosser, are not at every point concordant. Haemorrhoids, non-malignant tumours, and prolapse were more frequent among whites, and ordinary pyogenic infections about equal in the two races. Fistula, ulcer, condyloma, papilloma were in excess and non-malignant rectal stricture greatly in excess in negroes—the last probably because of the greater prevalence of syphilis and tuberculosis. Carcinoma (1 per cent. of the total cases) prevailed among negroes. Nine cases

of granuloma were all negroes. Dr. MARTIN, of Detroit, emphatically confirmed the marked prevalence of rectal stricture—and stricture of peculiar density—among negroes, and also the relative rarity of haemorrhoids.

A. A.

DAY (H. B.). **The Relation of Nephritis in Egypt to Intestinal Infection.** —*Proc. Roy. Soc. Med.* (Section of Trop. Dis. & Parasit.) 1925. Jan. Vol. 18. No. 3. pp. 1–2.

Of 100 cases of nephritis with oedema studied by the author in recent years at the Kasr-el-Aini hospital in Cairo, 88 appeared to be definitely connected with an antecedent infection; in many cases there was gross evidence of *Schistosoma mansoni*. In cultures of catheter-urine bacilli of intestinal types were usually the only organisms observed. In treatment, removal of an intestinal focus of infection, though possible only in a minority of cases, had an immediately favourable result; and small doses of vaccine—preferably autogenous—given by the mouth and on an empty stomach were of striking benefit.

A. A.

MOLLOW (W.). **Zur Behandlung der Chininidiosynkrasie.** [Treatment of Idiosyncrasy to Quinine.]—*Arch. f. Schiffs- u. Trop.-Hyg.* 1925. Mar. 1. Vol. 29. No. 3. pp. 135–143.

The author, in his practice in Bulgaria, has had several cases of quinine idiosyncrasy. It may be congenital or acquired, and may follow ingestion only or both oral and parenteral administration. Some authors regard it as a form of anaphylaxis, but the difficulty is that whereas anaphylaxis is a reaction to foreign proteins, drugs are not proteins. He notes that we do not know the form in which quinine is absorbed and circulates in the blood, and that anaphylactic symptoms are not produced by crystalloids, but that a chemical union with proteins to form a colloidal substance is necessary. He assumes, however, on the strength of some observations of BRUCK that the condition is one of anaphylaxis, and on this assumption based his treatment. Five cases of microscopically proved tertian malaria were all, it is stated, intolerant of quinine, the chief manifestation being an itching eruption on the skin, with in one case sneezing and dyspnoea, in another palpitation and in a third vomiting. All received by the mouth 0·5 gm. peptone each morning followed in half an hour by 0·2 gm. quinine hydrochloride, the doses of quinine increasing in number till 1·0 gm. was received in the day; the result was that after five days, as a rule, the idiosyncrasy had vanished. In one case a year later, the patient being in good health, 0·5 gm. "quinine" produced no symptoms. A case of blackwater was treated in the same way, but, as the author himself observes, there is no reason to believe that the patient would not have tolerated the usual quinine treatment.

[Reference to recent papers on this subject shows that this idiosyncrasy can be overcome in a variety of ways including the small and increasing dose method (this *Bulletin*, Vol. 20, pp. 59,60, 846; Vol. 21, pp. 93, 94). Nothing is said of the blood coagulation.]

A. G. B.

CHOPRA (R. N.), BOSE (S. C.) & DE (P.). **Variations in the Potency of Digitalis Preparations in the Tropics.**—*Indian Med. Gaz.* 1925. Mar. Vol. 60. No. 3. pp. 93–97. [14 refs.]

The authors review the history of the subject and describe their methods of experimentation, and conclude that the rapid deterioration of digitalis

in a hot climate cannot be so accurately determined by any single laboratory method as it can by clinical tests. They find that deterioration is due to some (still undetermined) change in the digitalis glucosides. Deteriorated tinctures instead of becoming light green and uniformly opalescent on dilution, turn dark; such tinctures are more toxic to cats, intravenâ, but are therapeutically weaker. They state of the tinctures usually employed in India, that the customary dose (5–10 minims three times a day) is far too small to exert the required effect of digitalis within a reasonable time (3 to 4 days), and should be increased to 20–30 minims thrice a day; or in an emergency, when rapid effects are desired, to 45-60 minims till the amount calculated by Eggleston's method is given.

A. A.

Bose (S. C.). **Clinical Studies on Digitalis in Bengal.**—*Indian Med. Gaz.* 1925. Apr. Vol. 60. No. 4. pp. 147–154. With 1 chart in text.

The author's observations were made on private patients, and though they cannot be so methodical as those obtained in a hospital, they could be followed for longer terms. The author gives his reasons for preferring the tincture, but even the tincture deteriorates, however carefully it be stored. He also gives his reasons for agreement with the opinions that the dosage should greatly exceed the prescribed maximum of the B.P., and that the range of the drug is not limited to cases of auricular fibrillation.

Of 150 cases of heart failure studied in Bengal only 6 per cent. had auricular fibrillation. To obtain prompt results in grave cases the tincture (standarded by and obtained direct from Parke, Davis & Co.) was used in doses of 2 to 3 drachms daily for 5 days. In one case of auricular fibrillation and ventricular tachycardia the patient, a European, had 18 drachms in 13 days, as well as an intravenous injection of strophanthin, before the beat fell to 80. The stage of optimum benefit usually merges in the stage of minor intoxication, and the toxic effects often come on after 2 drachms have been taken daily for more than 7 days. With the tincture as obtained in Bengal it is extremely rare for doses of 15 minims, thrice daily, to produce toxic effects. Senile hearts, cases of marked hypertension, and cases of grave anaemia with fatty degeneration of the heart responded exceedingly well to digitalis. Digitalis may rarely provoke a sudden paroxysmal tachycardia.

A. A.

Chopra (R. N.) & Bose (J. P.). **Observations on the Anti-Diabetic Properties of** *Cephalandra indica* (*Telakucha*).—*Indian Med. Gaz.* 1925. May. Vol. 60. No. 5. pp. 201–202. With 1 text fig. [2 refs.]

The roots and leaves of *Cephalandra indica*, a creeping Cucurbitaceous herb common in India, are prescribed by Bengal practitioners in diabetes. The authors analysed its composition and tested its pharmacological action. The fresh juice did not reduce the sugar in six cases of diabetes, and it is concluded that the plant's reputation depends upon its use in intermittent glycosuria.

A. G. B.

FOLLWEILER (F. L.) & HALEY (D. E.). **Toxicity of the Castor Bean.**—*Jl. Amer. Med. Assoc.* 1925. May 9. Vol. 84. No. 19. p. 1418. [4 refs.]

Three cases are reported of sensitiveness to the poison of the castor bean developed in experimental work in the Department of Agricultural and Biological Chemistry of the Pennsylvania State College. The symptoms were those of severe cold with sneezing, coughing and lachrymation, congestion of bronchi with oppressive breathing, nocturnal paroxysms of suffocation, swelling and pain of joints, abdominal pains, vomiting, aching of teeth. When the subject was removed from the laboratory the symptoms quickly subsided.

A. G. B.

BALFOUR (Andrew). **Presidential Address. The Term "Tropical."**—*Jl. State Med.* 1925. Aug. Vol. 33. No. 8. pp. 360–367.

This is the Presidential Address in the Section of Tropical Diseases of the Brighton and Hove Congress of the Royal Institute of Public Health, held in 1925.

The point of particular interest emphasized by the speaker, after a brief review, seriatim, of the diseases that chiefly engage the attention of authors of textbooks of tropical medicine, is focussed in the following paragraph :—

"In one sense there is no such thing as tropical medicine, and this section of the Congress should not exist. On the other hand, we can confidently affirm that diseases occurring in the tropics and modified by the tropics and hindering and hampering the tropics are only too real, and are, moreover, of the greatest interest and importance. Therefore it is well that there should be such a section as this, at this Congress held in Brighton."

A. A.

BALFOUR (Andrew). **Vistas and Visions : Some Aspects of the Colonial Medical Services.**—*Glasgow Med. Jl.* 1924. Dec. Vol. 102. pp. 353–374.

In the formal garb of an address to medical students this is a missionary call to medical service in the tropical colonies, and a call never the less alluring, since it is far from exacting any pecuniary sacrifice. The vistas are spacious vistas of a kind where every prospect pleases and only preventable disease in its variety and abundance is vile. The visions are inspiring visions of great opportunities for increasing the kind of knowledge that does not increase sorrow, and of discoveries concerning the causation and prevention of disease always on the horizon. There is no vagueness in these vistas and visions : the lecturer takes the torrid zone in his circuit and pauses at each colony in his eastwards course ; and he deals in considerable detail with particular problems of specific diseases that still require elucidation and study—even such familiar diseases as leprosy, dysentery, and beriberi.

A. A.

London School of Hygiene and Tropical Medicine. **Prospectus and Calendar of the Division of Tropical Medicine and Hygiene for the Session 1925-6. 23, Endsleigh Gardens, Euston Road, London, N.W. 1.**—37 pages. With 1 folding table. London: E. G. Berryman & Sons, Ltd., Blackheath Road, S.E. 10.

The main novelties in this novel prospectus and calendar are (1) that the London School of Tropical Medicine—the old Mansonian sapling—appears as a "Division" of the new London School of Hygiene and Tropical Medicine; (2) that the old, rather overgrown and crowded 12 weeks' course has expanded into a course of 20 weeks; and hence (3) that there are two such courses in the academic year, the one beginning in October and ending in February, the other beginning in March and ending in July. The noteworthy differences in the new course are:—

"(1) Much greater attention is paid to Tropical Hygiene, *i.e.*, 31½ hours as compared with 8 hours, and the institution of demonstrations and instruction in the field.

"(2) The inclusion of a short series of lectures on Bio-Chemistry in its relation to diseases and hygiene of the tropics.

"(3) A considerable extension of the Clinical Demonstrations, *i.e.*, 48 hours as compared with 33 hours.

"(4) The introduction of tutorial or seminar weeks during which there is no systematic teaching. Its place will be taken by conferences between teachers and students, by museum and other demonstrations, and by special clinical instruction.

"The student will have time for reading and reflection. Attendance during these tutorial weeks will not be compulsory except for students taking the examination for the D.T.M. & H. (Eng.), but all students are strongly advised to avail themselves of the opportunities which these tutorial weeks present, especially as, during them, such subjects as scientific nomenclature and terminology will be discussed and explained.

"(5) Special instruction in recent advances made in the subjects studied."

A. A.

Abbatucci. **L'école de médecine de Pondichéry.**—*Ann. de Méd. et de Pharm. Colon.* 1925. Jan.–Feb.–Mar.–Apr. Vol. 23. No. 1. pp. 123–126.

The Pondichery School of Medicine is the oldest native medical school in the French colonies. It was founded in 1823 and has been recognized officially since 1863. Since 1890 the course of studies has been 5 years. It trains native health officers, vaccinators and midwives, and since 1863 has passed out 65 diplomats. It is proposed now to employ its pupils in Indo-China, French West Africa, Madagascar and the Pacific.

A. G. B.

Brumpt & Joyeux. **L'assistance médicale indigène dans nos colonies africaines.**—*Bull. Acad. Méd.* 1925. May 5. Year 89. 3rd Ser. Vol. 93. No. 19. pp. 490 500. With 1 chart. [1 ref.]

The thesis of this paper, which is of chief interest to France, is that the prosperity of the colonies depends on manual labour, and the supply of this on a sufficiency of skilled doctors. It appears that while Indo-China is well furnished, with 185, the African colonies are but

poorly provided (French West Africa, 92; Equatorial Africa, 37; Togo and Cameroun, 27), and that this difference is due entirely to the low remuneration of the doctors in Africa. Figures are given for each colony and for France, and those of Belgian Congo for comparison, and appear to show that the highest annual income obtainable after 25 years in the French African Colonies is little more than the starting point in Belgian Congo. Of the conditions in British colonies the authors write, "Nous ne parlons pas de l'Angleterre qui paie ses médicins et ses fonctionnaires avec une largesse ne pouvant être comparée à notre parcimonie." They seem to favour the plan of the Dutch and Portuguese governments, who maintain a "study fund" (*bourse d'études*) for young people who agree to go abroad when they have obtained their diplomas. France is the one country which does not insist on its colonial medical officers taking a course at a school of tropical medicine or its equivalent. It will not be possible to obtain sufficient doctors till the salary scale is raised to a point which induces them to leave France. [Things being so, all the more credit is due to the French doctors in Tropical Africa for their steady output of scientific work.]

A. G. B.

THOMAS (Marie). **De suspensiestabiliteit van het bloed in de tropen.**—*Geneesk. Tijdschr. v. Nederl.-Indië.* 1925. Vol. 65. No. 2. pp. 157–172. With 1 folding table.

After reviewing the relevant literature the author tabulates her own results. In Europeans in the tropics, and in perfectly healthy natives, the sedimentation speed was the same as in Europe, but malaria and hookworm infections even in a slight degree caused a marked acceleration. Therefore normal values were rare in natives, more frequent, however, in the better classes. There is no parallelism between the sedimentation speed and the degree of anaemia. From a clinical point of view the sedimentation test may give aid: (1) In suggesting some slight affection overlooked; (2) for prognostic purposes; (3) perhaps for differential diagnosis, but this requires further study.

W. J. Bais.

RADSMA (W.). **Het suikergehalte van het bloed bij Inlanders en Europeanen in de tropen. (2de Mededeeling.)** [The Blood Sugar Content of Natives and Europeans in the Tropics.]—*Geneesk. Tijdschr. v. Nederl.-Indië.* 1925. Vol. 65. No. 3. pp. 293–317. [10 refs.]

Previous work of the author together with GOELAM (see this *Bulletin*, Vol. 21, p. 399), showing that the blood-sugar values of natives and Europeans in the Dutch East Indies do not materially differ from European figures, has since been confirmed by HOLTAPPEL (*tom. cit.*, p. 486) and by Teding VAN BERKHOUT (*Meded. Burgerlijk. Geneesk. Dienst. in Nederl.-Indië*, 1924, IV). Radsma now quotes his further experience, which is in accordance with his previous report. Cohen Tervaert's method again was found to be useful and correct; some technical details were improved.

It is a well-established fact that glucose is found only in the plasma and not in the chromocytes. To exclude influence of difference in

the relative plasma volume in the races under consideration the author determined the same by the haematocrite method and found no difference of any importance in this respect either.

Neither in human individuals nor in rabbits could any difference in the blood sugar level be produced by transfer from low country to the mountains.

Some preliminary experiments are quoted in which a similar blood-sugar curve was found in Europeans and natives after administration of 50 gm. glucose.

W. J. Bais.

RADSMA (W.). **Something about the Chemical Composition of Blood in the Tropics.**—*Meded. Dienst d. Volksgezondheid in Nederl.-Indië.* 1925. Pt.2. pp. 122–125.

The author is of opinion that comparative studies of native blood with European blood in the tropics are more profitable, in the present state of our ignorance, than the premature study of the effect of a tropical climate upon European blood, and he gives here some tabular statements of the results of his analyses of European and native bloods in the Dutch East Indies, as regards intermediate products of metabolism. The analyses show a much higher average content of urea and glucose in European than in native blood and a somewhat higher nitrogen content and a somewhat higher content of glucose in European serum.

A. A.

DJAMIL (Mohd.). **De bepaling van het haemoglobinegehalte en het volumen der roode bloedlichaampjes en den kleurindex van het bloed in de tropen.** [The Determination of the Hemoglobin Content and the Volume of the Chromocytes and the Color Index in the Tropics.]—*Geneesk. Tijdschr. v. Nederl.-Indië.* 1925. Vol. 65. No. 3. pp. 318–339. [15 refs.]

The author compares the haemoglobin tests of Tallqvist, Sahli and Van Slyke. The first is to be depended upon only as concerns values of over 60 per cent. Sahli's instrument is to be recommended, but it should be regularly standardized every half-year in view of the alteration which the haematine solution undergoes in tropical light. The gasometric method of Van Slyke yielded the most trustworthy results.

Healthy male natives of the Dutch East Indies showed haemoglobin values of 86·45 per cent.–103·84 per cent. (average 96·24 per cent.). The number of erythrocytes amounts to 4,420,000–6,024,000 (average 5,195,000). The volume of the erythrocytes was determined with Hamburger's haematocrite ; it was found to be 38 per cent.–50 per cent. (average 42·2 per cent.), Capps' volume index accordingly being lower than 1 ; it is to be considered abnormal only if under 5/6. The colour index is also slightly lower than 1, in healthy individuals as well as in most cases of anaemia. Only a few cases of serious anaemia were met with, in which the colour index was higher than 1 ; yet these were not cases of primary pernicious anaemia, but secondary cases generally caused by malaria. Primary pernicious anaemia, if occurring at all, is exceedingly rare in the Malay race. Hookworm disease affects the bone marrow and brings on aplastic conditions of the blood, but never causes the blood picture of pernicious anaemia.

W. J. Bais.

MUKHERJEE (Harendra Nath) & SAHA (Jugal Charan). **Studies in Blood Chemistry of Bengalee Students—Physiological Normals I.**—*Calcutta Med. Jl.* 1925. May. Vol. 20. No. 11. pp. 415–421. [8 refs.]

This paper consists largely of tabulated figures. The authors' summary is that in healthy Bengali youths the non-protein-nitrogen, the urea-nitrogen, and the creatinine content of the blood are lower and the uric acid content is higher than the European standards.

A. A.

DE SOUZA (José Florencio). **Determinação de alguns indices hematológicos normais em indigenas de Goa. (Estudos de hematologia normal.)**—*Arquivos Indo-Portugueses de Med. e Hist. Nat.* Nova-Goa. 1925. Vol. 2. pp. 71–112.

The author has carried out total blood-counts and haemoglobin estimations and evaluated the Arneth Index of 60 indigenous subjects in Goa, apparently in good health, in order to obtain satisfactory haematological standards for three age-periods, namely, 20 for each group between 20 and 45 years, 14 and 20 years, and 7–14 years. The detailed results of each are given. When compared with the usual text-book standards these show certain marked differences. The number of erythrocytes was lowest in the children, but the majority in each of the groups was higher than we have been led to regard as normal. Eight of the first group had over 6,000,000 per cmm., 11 of the second, and 14 of the third. In one instance, 8,400,000 is recorded. The haemoglobin in a large majority of the cases was 90 per cent. or over. The total leucocytes were inclined to the low side, most being below 6,000 per cmm.

The greatest divergences from the generally accepted normal are seen in the proportion of eosinophiles. Of those in the first group (20-45 years) only four had less than 4 per cent., and one had as many as 16. In the second group (14–20 years) more than half had 5 per cent. or more, one showing 29·2 per cent. Three-fourths of the third group (7–14 years) had more than 5, and eight showed between 10 and 20 per cent. If helminthic infection is accountable for this eosinophilia the parasites have not produced anaemia and all the subjects were apparently in normal health. 19 of the 60 were soldiers, the remainder students at school or college. The Arneth Index proved to be within the limits of the normal, namely, II 7, III 53, IV 35, V 6.

H. Harold Scott.

DOEKELMAN (W. A.). **Een merkwaardig geval van eosinophilie.** [A Curious Case of Eosinophilia.]—*Nederl. Tijdschr. v. Geneesk.* 1925. Feb. 28. 69th Year. 1st Half. No. 9. pp. 998–1002.

An officer of the Dutch East Indian army of 6 years' Indian service, who had suffered from malaria and ancylostomiasis and, on his return, from bronchitis with fever and mucous and sometimes sanguinolent expectoration, showed a hyperleucocytosis of 36,400 (Polynuclear neutrophiles 13·7 per cent., eosinophiles 74·8 per cent., lymphocytes 9 per cent., large mononuclears 2.5 per cent., no juvenile forms), splenomegaly, arterial pressure 165 (systolic) and 120 (diastolic), the last (as appeared later) probably due to an intercurrent subacute Bright's disease. Bronchial asthma, helminthiasis, leucaemia, could be excluded as etiological factors.

Treatment with adrenalin brought the eosinophilia temporarily down to 60 per cent., and a diet free of purin to 15·6 per cent. The patient is still under observation. The case is compared with 7 others, among them two described in American and English literature as "persistent eosinophilia, hyperleucocytosis and splenomegaly."

N. H. Swellengrebel.

MOONEY (Harold L.). **Lunacy among West African Natives.**—*Trans. Roy. Soc. Trop. Med. & Hyg.* 1925. Mar. 19 & May 21. Vol. 19. Nos. 1 & 2. p. 89.

For an idea of the relative prevalence of the different mental disorders among West Africans the author gives the result of an examination of 200 patients in the Asylum at Accra, the average population of that Institution being 210.

Mania (Acute, Chronic, Recurrent and Recent) ...	59	Acute Confusional Insanity	21
Maniacal (Depressive Psychoses)	16	General Paralysis	3
Melancholia	2	Dementia (Secondary, Senile, Organic)	27
Paranoia	9	Insanity Associated with Visceral Disease... ...	6
Dementia Praecox types ...	39	Mental Deficiency ...	5
Epileptic Psychosis	13		

The male patients outnumbered the females by about 3 to 1.

The large proportion of cases of dementia praecox types the author is inclined to regard as a simian or atavistic character.

A. A.

TRAVAGLINO (P. H. M.). **The Social Importance of Schizophrenia for the Native Society.**—*Meded. Dienst d. Volksgezondheid in Nederl.-Indië.* 1925. Pt. 2. pp. 126–131.

The author's argument is that the normal native of the Dutch East Indies is "hypertenacious" and "hypovigilant"; that is to say, that in a series of very swiftly succeeding simple impressions his mind is so overwhelmed by the first one as to be oblivious of the others: for instance, in a procession of motor-cars he very dangerously concentrates his attention on the leader. In the abnormal native mind this "hypertenacity" becomes manifest in the realm of ideas, so that the native is particularly prone to succumb to that state of hostile self-engrossment against the world which characterizes dementia praecox. And, as a matter of fact, 75 per cent. of the criminal inmates of the Lawang asylum during the last 8½ years have been the victims of this dangerous form of insanity. Since in the Dutch East Indies many mentally defective natives are not secluded, this is a fact of great social importance.

A. A.

REED (J. G.). **Case of Congenital Deformity in a Dyak Boy.**—*Trans. Roy. Soc. Trop. Med. & Hyg.* 1925. Mar. 19 & May 21. Vol. 19. Nos. 1 & 2. p. 90. With 4 figs. on 1 plate.

The deformities here described and figured affect both hands and both feet, being mainly perodactyly in the left hand and both feet and mainly syndactyly in the right hand. There is no family history of deformity. The relatives attribute the deformity to the killing of a tortoise by the father when the mother was seven months' pregnant.

A. A.

PONS (René). **Vaccinothérapie dans les affections gangreneuses à association fuso-spirillaire par un vaccin antispirillaire. Essais thérapeutiques, en collaboration avec les docteurs** LALUNG-BONNAIRE & NGYUEN-VAN-LU.—*Arch. Insts. Pasteur d'Indochine.* 1925. Apr. No. 1. pp. 42–47 With 4 figs. on 1 plate. [1 ref.]

The antispirillar vaccine here described and commended is a diluted culture of a polymorph spirillum—said to differ in dimensions and culture-reactions from *S. vincenti*—isolated by the author from the buccal cavity. The vaccine (an emulsion—standardized to 500,000,000 per cc. and heated for half an hour at 53° C.—in 7 per cent. fluoride solution, of a 24-hours' culture) is said to cut short all the phagaedenic manifestations, on mucous membrane and on skin, of the fuso-spirillar (Vincent, Le Dantec) infection. The author has used it in the treatment of the phagaedenic ulcers of Cochin China, noma, membranous stomatitis, Vincent's angina, and alveolar pyorrhoea, also of various other specific ulcers where phagaedena is a complication. In acute ulceration of the mucous membrane its action is rapid, 4 to 5 injections (increasing from 0·5 to 2·0 cc.) being curative in about 5 days; but in ulceration of the skin its action is slower since it only arrests the phagaedena and does not hasten cicatrization.

A. A.

NOËL (P.) & ANDRÉ (Zéganadane). **La puberté chez les Hindoues.**—*Ann. de Méd. et de Pharm. Colon.* 1925. Jan.–Feb.–Mar.–Apr. Vol. 23. No. 1. pp. 49–54.

The authors inquired into the date of the first menstruation in 1,500 women in the region of Pondichery, Madras. The maximum, 17 per cent., was at 13 years, and 66 per cent. commenced menstruation between 11 and 15 years. They proceeded to test the effect of caste and examined females of six castes from Valangas to Brahmins. They reached the following conclusions: The menses appear later in girls of poor circumstances, compelled to work and badly fed, than in wealthier girls of the same caste. Whether the diet is vegetable or mixed makes no matter. The influence of early marriage is doubtful; the maximum occurred at 11 years in two castes where early marriage is the custom. They were unable to collect sufficient data from Mussulmans. In 100 cross-breds (Indo-Europeans) there were two maxima, one at 11 and the other at 14 years, a peculiarity which appears to be frequent in race mixtures.

A. G. B.

DONATH (W. F.). **Changes in the Percentage of A-Vitamine and in the Nature of Albumen during the Germination of Katjang-Idjoe** (*Phaseolus radiatus* **L.**).—*Meded. Burgerlijk. Geneesk. Dienst. in Nederl.-Indië.* 1924. Pt. 4. pp. 344–362. With 9 charts. [28 refs.]

The experimental animals were rats. The conclusions are as follows:—

"By the curative and the prophylactic methods for ascertaining the percentage of A-vitamine, a comparison was made between the percentage of A-vitamine in katjang-idjoe, tao-geh [the shooting sprouts of katjang-

idjoe] and well-developed katjang–idjoe, and the value of the albumen of the three products as an addition to the shortage of rice-albumen. It was found :—

"1st. That A-vitamine, during the first eight days of germination, is synthesized in the sprouts of katjang-idjoe, and that consequently the percentage of fat-soluble vitamine is considerably higher in tao-geh than in katjang-idjoe.

"2nd. That the amount of A-vitamine increases with the age of the sprouts.

"3rd. That the greater part of A-vitamine is in the stems and the leaves while very little is present in the roots.

"4th. That the faculty of the albumen of compensating the shortage of amino-acids in the rice-albumen, which is entirely insufficient with katjang-idjoe, increases with the age of the sprouts."

A. G. B.

SCHÖBL (Otto). **Semiselective Antiseptic Effect of the Vapors of Vegetable Oils, Essential Oils, their Constituents, and Similar Compounds.**—*Philippine Jl. Sci.* 1925. Apr. Vol. 26. No. 4. pp. 501–505. With 1 folding plate. [1 ref.]

These experiments are a continuation of those described with KUSAMA in a former paper (*ante*, p. 229). Forty-six vapours and 12 microbes were now used. The selective action most evident was in respect of *B. tuberculosis* and, to a certain extent, *B. anthracis*.

"Results of experiments are given concerning the semi-selective antiseptic effect of the volatile constituents of essential oils, vegetable oils, and similar volatile compounds toward *B. tuberculosis*, *B. typhosus*, *B. coli*, *B. dysenteriae*, *Vibrio cholerae*, *B. anthracis*, *B. pyocyaneus*, and Gram-positive and negative pathogenic cocci."

A. G. B.

SMITS (J. C. J. C.). **Pyoktanin als antisepticum.**—*Geneesk. Tijdschr. v. Nederl.-Indië.* 1925. Vol. 65. No. 3. pp. 340–344. [6 refs.]

The author has already recommended the use of pyoktanin in 1892. He now once more emphasizes the striking antiseptic action of this anilin dye in aqueous or alcoholic solution of 5–10 per cent. He noticed neither the alleged necrotic action of the drug nor secondary eczema of the treated parts and quotes a case of necrotic tendovaginitis of the forearm in an elderly Javanese woman, in which the infection was abated within three weeks' time.

W. J. Bais.

GENEESKUNDIG TIJDSCHRIFT VOOR NEDERLANDSCH-INDIË. 1925. Vol. 65. No. 3. pp. 363–380.—**Uit het Jaarverslag van het Centraal Militair Geneeskundig Laboratorium over het jaar 1924.** [From the Annual Report of the Central Military Medical Laboratory on the Year 1924.]

This report contains a record of the many activities of the laboratory, mostly for practical purposes, but few points of general interest.

A non-agglutinable strain of paratyphoid A bacillus was isolated from the blood in a case which behaved clinically like typhoid fever. It was not demonstrated that this strain was the causative agent.

In a clinical case of kala azar (very rare in the Dutch East Indies) the Leishmania was cultivated from blood, liver and bone marrow.

W. J. Bais.

CORNWALL (J. W.). **How can the Exponents of Western Medicine and of Ayurvedic Medicine be reconciled?**—*Trans. S. Indian Branch Brit. Med. Assoc.* 1925. Vol. 17. No. 3. pp. 125–132.

A useful piece of dialectics. The author states the postulates of all rational argument as distinguished from sentimental dispute; and as regards the pure Ayurvedic doctrine he decides that, so far, no competent Indian scholar has been able to present in English such a statement of it as is necessary for comparison with western medical practice seeking always to be based on demonstrable fact. In such circumstances commonsense will approve the conclusion that "judging from the history of scientific achievement in general it seems scarcely probable that any [scientific] hypothesis could remain unchanged, unchallengeable and satisfying for a period of, let us say, 2,500 years."

A. A.

AFFRE. **Sur la possibilité d'utiliser au Sénégal le lait d'ânesse dans l'alimentation des nourrissons malades.**—*Bull. Soc. Path. Exot.* 1925. June 10. Vol. 18. No. 6. pp. 507–509.

The author proposes that in places—such as Dakar, whence he writes—where wet-nurses are likely to be tainted and verminous, and cow-milk is a priceless rarity, the milk of that inexpensive and cosmopolitan domestic drudge, the ass, should be adopted for the treatment of infants suffering from bowel-disorders. The particular fitness of ass-milk for human consumption is generally allowed, and the only objection against it, that the author can think of, is that it is not amenable to ordinary processes of sterilization.

A. A.

OUDENDAL (A. J. F.). **Crystals and Pigments in Living Tissues.**—*Meded. Burgerlijk. Geneesk. Dienst in Nederl.-Indië.* 1925. Pt. 1. pp. 1–20. With 23 plates.

This paper is remarkably well illustrated by coloured plates of the crystals and pigments described.

In the first instance the author describes the appearances of the liver of a young native female victim of pulmonary tuberculosis. Besides the usual tubercles, it contained a small abscess surrounded (and also permeated) by innumerable small Charcot-Leyden crystals associated with giant-cells apparently attacking the crystals.

The greater part of the paper, however, is concerned with descriptions and digressional discussions of the conditions accompanying deposits of cholesterine-ester crystals in spleen and thyroid, as seen in the spleen of a patient with a post-mortem diagnosis of malaria and amoebic dysentery, and in an enormous sarcomatous thyroid removed from a native woman by operation. Here the masses of crystals were found in haemorrhagic and necrotic foci surrounded either by giant cells or connective tissue. Along with them, and also in the walls of the blood-vessels, were remarkable accumulations of fat and haemosiderin. Similar changes have been observed by the author in the spleens of patients dying of other diseases than malaria, and the accumulations of iron pigment have been observed to give rise to

proliferation of connective-tissue so as in some cases to cause an "enormous extension of the trabeculae." "Taken as a whole the impression is raised that the tropical spleen is the scene where a far-going and extensive blood-destruction takes place."

The author's post-mortem-room experience leads him to think that even in such spleens all the destroyed blood is not "consumed." The neighbouring lymphatic glands, the liver and the lymphatic glands in its vicinity, the kidneys and the lungs may be charged with superfluous iron pigments. He does not wish to suggest that these pathological changes observed in the spleen are restricted to malaria. But if "malaria should be the cause of all the pigmentations with iron compounds, the frequent presence of iron pigments in the epithelial cells, and in the cylinders [kidneys] throws a special light on the origin of ferruginous urine in such patients. Probably this anomaly also holds the key to another problem, viz., the haemoglobinuria in blackwater fever."

A. A.

GUDGER (E. W.). **Stitching Wounds with the Mandibles of Ants and Beetles. A Minor Contribution to the History of Surgery.**—*Jl. Amer. Med. Assoc.* 1925. June 13. Vol. 84. No. 24. pp. 1861–1864. [14 refs.]

The following is the author's summary of an interesting paper :—

"Herein are brought together definite citations to show that the use of living ants to bite fast and thus suture wounds persists to-day in northern South America, was prevalent on the southern and eastern shores of the Mediterranean from 80 years ago down to 30 years ago, was the standard practice in Spain, France and Italy in days just preceding the coming of Renaissance times, and reaches back to remote antiquity in India—that its time span is from A.D. 1921 to 1000 B.C., a range of nearly 3,000 years.

"Verily there seems to be nothing new under the sun."

A. A.

MCCONNELL (W. J.) & YAGLOGLOU (C. P.) assisted by FULTON (W. B.). **Basal Metabolism before and after Exposure to High Temperatures and Various Humidities.**—*Public Health Rep.* 1924. Dec. 5. Vol. 39. No. 49. pp. 3075–3088. With 6 figs. [9 refs.]

The observations recorded deal with the respiratory exchange during rest, and were made on human subjects. The paper speaks of 10 subjects, but only 8 appear in the tables of data, and most of these relate to only 2 of them.

The subjects went without breakfast, were recumbent in light clothing for two hours in a room of ordinary temperature (not stated) and samples of expired air were then collected; they passed into a second chamber of constant high temperature and humidity, where they remained one or two hours, and second samples were collected, and compared with the first. They were not able to stand the higher temperature (105°) for more than an hour. All experiments were made in still air. The air temperature was taken with dry-bulb and wet-bulb thermometers, and the results are stated for what is called "effective temperature" mid-way between the two. This simplifies

such observations. It was found that the zone of minimum metabolism was between 75° and 83° "effective temperature"; therefore basal metabolism should be measured under these conditions. The CO_2 produced and oxygen consumed, as also the heat-production rise with exposure to low temperatures, which is what one would expect. The same result follows exposure to high temperatures, especially when the air temperature exceeds the body temperature. This evidently puzzled the authors, but if they had studied their own tables, they would have discovered the cause; for the body temperature of their subjects rose (in some cases to over 102°), their heart-rate increased to 150 or thereabouts, and their glandular activity was raised also. Extreme sweating was noticed, and interpreted as an effort of nature to prevent a rise of body temperature. It may have been so, but, at any rate, their subjects were not in a condition of basal metabolism, but in a condition of extreme muscular and secretory activity, and the rise of rectal temperature was attended with the usual increase of chemical activity. Another point noted is a rise in the respiratory quotient which they explain, probably correctly, by a conversion of carbohydrate into fat, another indication they were not dealing with normal metabolism.

The research is of some interest from the academic point of view, but to those who deal with conditions in the tropics it is not of much practical importance. A fasting man put into a hot room for an hour or two is a different proposition from one who has to exist in a tropical climate.

W. D. Halliburton.

BENEDICT (Cornelia G.), BENEDICT (F. G.) & DU BOIS (E. F.). **Some Physiological Effects of Hot Air Baths.**—*Amer. Jl. Physiol.* 1925. Vol. 73. No. 2. pp. 429–448. [7 refs.]

McLEOD (Grace), CROFTS (Elizabeth E.) & BENEDICT (F. G.). **The Basal Metabolism of some Orientals.** *Ibid.* pp. 449–462. [23 refs.]

The work detailed in the first of these communications is mainly of theoretical importance, and is chiefly interesting to readers of this Journal because it stimulated Dr. Benedict and his co-workers to study the basal metabolism of nine Oriental women (7 Chinese and 2 Japanese) who had emigrated to America. Their vital or respiratory capacity was low, but pulse, respiration rate, blood-pressure and other standard measurements presented nothing unusual. The basal metabolism was remarkably low, and this question has frequently cropped up in other researches abstracted for the *Bulletin* by the reviewer. The average was 10 per cent. below the Harris and Benedict prediction standard. By other standards also there was essentially the same picture. There was nothing to indicate abnormality, but the persistent low metabolism appears to be characteristic of the Oriental, and transplantation to another climate does not alter this inherited trait. Sex is an undoubted factor, and leads the authors to believe that the present standards for American women are too high, approximately 5 per cent. too high. The importance of age and sex has been recognized before; it appears now that a racial effect must be added to these.

W. D. Halliburton.

FLINN (Frederick B.). **Some Effects of High Environmental Temperatures on the Organism.**—*Public Health Rep.* 1925. May 1. Vol. 40. No. 18. pp. 868-896. With 1 text fig. [54 refs.]

The results given in this paper are mainly of academic interest, since they relate to the dog. The author admits that the means of heat-loss in this animal are different from what they are in man, but thinks such differences are mainly quantitative only. His observations at present relate to the blood only; he is to continue them with other tissues such as the changes in the central nervous system. The results hitherto obtained may be briefly summarized as follows:—

Exposure for 6 hours to 20°–30° C. (68°–86° F.) caused the body temperature to drop, probably owing to lessened muscular activity; at 40° C. (104° F.) caused a rise of 1° C. in body temperature; at 45°–50° C. (113°–122° F.) the body temperature rose within an hour so much that it was not deemed safe to continue the experiment. Data are also given of the oxygen capacity, the oxygen content, the alkali reserve, the CO_2 content, the hydrogen ion concentration, the sugar and solids of the blood at these various temperatures, but nothing unexpected was noted. Increased air movement delays any deleterious effects, so also does the free drinking of water (temperature of water not stated).

W. D. Halliburton.

KOROBKOVA (E.). **Sur les résultats différents d'immunisation par voie digestive.**—*Rev. Microbiol. et Epidémiol.* Saratov. 1925. Vol. 4. No. 1. In Russian pp. 30–33. French summary pp. 34–35.

The author notes that some workers have been unable to demonstrate agglutinins in the blood of animals to which they have administered dried vaccines per os. He suggests that dried vaccines are not absorbed unless they are given in a state of fine division. He gave dried anti-typhoid vaccine per os to rabbits (*a*) finely divided, (*b*) merely dried, and found that agglutinins were present 10 days after a course of 3 doses in the first series, but not in the second. The dose of organisms must not be less than 100–150 milliards.

A. G. B.

SILER (J. F.). **Review of the Reports of the 1924 Annual Physical Examination of Officers on Duty in the Philippine Islands.**—*Milit. Surgeon.* 1925. May & June. Vol. 56. Nos. 5 & 6. pp. 558–576. With 5 charts in text. pp. 738–754. With 3 charts in text.

The officers in question numbered 676. Among the conclusions reached were the following:—

"1. Seventy per cent. of the officers in the Philippine Department had been in active service, as such, for a period of less than ten years.

"2. A very large proportion of the officers examined had errors of refraction but practically all were wearing eye-glasses fitted with correct lenses . . .

"3. It was found that a larger percentage of officers on duty in the Philippine Department had defective hearing than was the case for all officers of the Army (49 per 1,000, as compared with 38 per 1,000). . . . .

"5. There was a marked tendency to underweight as 67 per cent. of the officers in the Department weighed less than the normal average

for their age and height. Assuming that a maximum variation in weight of 10 lbs. below or above the normal average can be considered as within normal limits, 43 per cent. of the officers were underweight (more than 10 lbs. below average), 40 per cent. were within normal limits, and 19 per cent. were overweight (more than 10 lbs. above average). A very definite correlation between weight and height was demonstrable in the case of officers who on the one hand were markedly underweight, and on the other were quite tall (70 ins. or more) . . .

"6. The occurrence of hemorrhoids in officers in the Philippine Department as compared with all officers of the army was as 2 is to 1 (98 per 1,000 officers, Philippine Department, 44 per 1,000 all officers).

"7. The systolic blood pressure of officers serving in the Philippines is, as a rule, considerably lower (5 to 10 points) than the systolic pressure of groups of individuals of comparable ages residing in temperate or cold climates. Seventy-six per cent. of the officers of this group had systolic pressures below the average for their respective ages. The hypotension rate of 760 per 1,000 for officers serving in the Philippine Islands is more than five times greater than that noted for all officers during the 1923 annual examination.

"8. A significant correlation was noted between underweight and low systolic blood pressure on the one hand and overweight and high systolic pressures on the other. It is probable that low blood pressures in tropical climates are due to general relaxation resulting from exposure to continuously high temperatures and excessive humidity.

"9. Organic lesions of the heart and other diseases of the heart and blood vessels were but rarely noted, 15 per 1,000 individuals examined (10 of 676).

"10. The reported rates for pulmonary tuberculosis (inactive, 12 per 1,000; active, 5 per 1,000) were very much higher than the rates for all officers noted during the 1923 annual examinations (inactive, 1·83 per 1,000; active, 1·42 per 1,000).

"11. Neurasthenia was reported in six cases, 10 per 1,000 of individuals examined. The reported rate for all officers for the 1923 annual physical examination was only 1·3 per 1,000."

A. G. B.

ABBATUCCI (S.). **La médecine aux colonies françaises. La politique française du quinquina.**—*Presse Méd.* 1925. June 13. Vol. 33. No. 47. p. 795.

The quinine purchases of the French Colonial department amount to 4,535 kilos, or 2,222,594 francs. It is calculated that if it were desired to submit every inhabitant of French West Africa to a régime of preventive quinine for 4 months it would cost 180,000,000 francs. In any case, it is improbable that the world production of quinine would suffice; the Dutch East Indies, the chief source, in 1924 produced 620,800 kilos. France should endeavour to grow its own cinchona, and the author names the conditions necessary for its cultivation: a warm damp climate with constant temperature at an elevation of 1,000–1,800 metres; a site sheltered from wind and the direct rays of the sun; a siliceous-argilaceous soil, rich in humus, fairly permeable, not allowing stagnation of water, preferably volcanic. He would have missions to prospect for such places in the French tropics.

A. G. B.

REVIEWS AND NOTICES.

WERNER (Louis). [M.B., F.R.C.S.I., Sen. Mod. Univ. Dub., Surgeon to the Royal Victoria Eye and Ear Hospital, Dublin, etc.] [Edited by.] **Swanzy's Handbook of the Diseases of the Eye and their Treatment.** 13th Edition.—pp. xvi+698. With 279 text figs. & 9 coloured plates. 1925. London: H. K. Lewis & Co., Ltd. [Price, 21s. net.]

SWANZY'S "Diseases of the Eye" has for many years served as a most reliable and readable textbook to which practitioners can refer in cases of difficulty. In the new edition of the work Werner has preserved all the best characteristics of the previous issues, and has brought the book well up to date by including most of what has been found to be of value in recent practice. Many minor alterations and additions have been made to the text, whilst much of the section on diseases of the uvea has been entirely rewritten. The size of the book, however, has only been increased by some twenty odd pages. The description of operations upon the eye is excellent, especially that of sclero-corneal trephining. Surgeons, however, who quite frequently perform an iridectomy as a preliminary to the extraction of a senile cataract, are unlikely to agree with the statement that this procedure renders it more difficult to raise a conjunctival flap at the subsequent operation, and that it is liable to cause adhesion of the pillars of the coloboma to the angles of the wound. A preliminary iridectomy may actually facilitate the safe extraction of the lens beneath a "bridge flap" of conjunctiva; and, if the preliminary operation was successfully performed, there should be no unusual difficulty in securing a proper replacement of the pillars of the iris. A textbook which has gone into thirteen editions requires no commendation, but its editor may be congratulated on his production of a comprehensive, clearly-written, and concise work which very fully maintains the high standard of the previous issues.

H. Kirkpatrick.